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Canadian Mills Start to Curtail Output

Thirty-six Paper and Pulp Mills In Quebec and Ontario Have Begun Restricted Operation To Conserve Electricity and Manpower — Wood Pulp As A Flooring Material — Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 19, 1942—In order to conserve electricity and release manpower for direct war industries, 36 pulp and paper mills in Quebec and Ontario are starting to curtail operations as from yesterday. The order followed conferences between officials of the Wartime Prices and Trade Board, National Selective Service and Power Controller H. J. Symington.

The power saving plan embraces operation of fine paper and paper board mills on Sundays and shutting them down for 24-hour periods on week days so that war industries can have more power available.

Shut Down Days For Mills

In the Province of Quebec shut-down days will be as follows: On Monday, Canada Paper Company, Windsor Mills; Wednesday, the Barrett Co., Ltd., at Joliette; Thursday, Brompton Pulp and Paper Co., Ltd., at East Angus and Bromptonville, and Bennett, Ltd., at Chambly Canton; Friday, the Wayagamack Mill at Three Rivers; the Howard Smith Paper Mill Ltd., Crabtree Mill; Building Products, Ltd., at Pont Rouge; Bishop & Sons at Portneuf Station; J. Ford & Co., Ltd., at Portneuf; and St. Raymond Paper Ltd., at St. Raymond. On Saturday, St. Basile Paper Company at St. Basile; J. A. Coulombe & Co., Ltd., at L'Ange Gardien; Gair Company, Canada, Ltd., Montreal. On Sunday, Howard Smith Paper Mills, Ltd., Beauharnois. Shut-dawns will be from 8:00 a. m. to 8:00 a. m.

Shut-down days for fine paper, paperboard and kraft paper mills in the Ontario group will be: Sunday, Beaver Wood Fibre Company, Ltd., Thorold; J. C. Wilson, Lachute; Rolland Paper Company, Ltd., St. Jerome and Mont Rolland; Strathcona Paper, Napanee. On Monday: Garden City Paper Mills Company, Ltd., St. Catharine; Alliance Paper Mills, Ltd., Georgetown; Canada Glazed Papers, Toronto; Gair Co. Canada, Ltd., York Paper Mill Div.; Gair Co. Canada, Ltd., Frankford; Gair Co. Canada, Ltd., Campbellford; Hinde & Dauch Paper Company, Ltd., Trenton. On Tuesday: Alliance Paper Mills, Ltd., Merritton; Hinde & Dauche Paper Company, Toronto; Provincial Paper, Limited, Thorold; Interlake Tissue Mills Company, Ltd., Thorold. On Wednesday: J. R. Booth, Limited, Ottowa; Brantford Felt and Paper Company, Ltd., Thorold; Provincial Paper, Limited, Georgetown; Sonoco Products Company of Canada, Ltd., Brantford. On Thursday: E. B. Eddy Co., Hull. On Friday: Howard Smith Paper Mills, Cornwall (A) part; Champion Paper Mills, Ltd., Toronto; Don Valley Paper Company, Ltd., Toronto. On Saturday: Howard Smith Paper Mills, Cornwall (B) part; Provincial Paper Mills, Mille Roches.

Manpower a Vital Asset

The announcement made it evident that manpower considerations ranked with the saving in power in making the curtailment. The wording of the announcement that "part of the manpower" of the mills would be released for war industry indicated that the curtailment would take the form of the shutting down of some machines in each mill rather than in stopping the mills for part of each week.

It did not say, however, how many men would be diverted to other industries by the move, mentioning specifically only the 50,000 horsepower saving.

In working out individual mills' shut-down days, great care has been taken to cause the least interference with operations and personal and religious considerations. Over all it has been borne in mind that even a balance of total power released each day to each major power distributing system is important so that the power can flow to its best use. Labor has contributed to the development of this plan through the manpower advisory committee of the Pulp and Paper Industry of Canada set up to advise the Director of National Selective Service.

The announcement quoted Newsprint Controller R. L. Weldon as saying that any further reductions will be made as soon as the requirements of the war plants are more accurately known.

The curtailment was in addition to readjustments already made in a number of Quebec mills whereby

(Continued on page 20)

Commission Prepares to Conserve Pulpwood

Wisconsin Committee Contemplates Introduction of Bill In Next Legislative Session To Prevent Indiscriminate Cutting In Woods— Mills Announce Changes In Personnel — Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 19, 1942—Wisconsin's reforestation and selective logging movements are expected to take on new impetus because the future director of the Wisconsin Conservation Commission came up through the ranks as forester. He is Edward J. Vanderwall of Tomahawk, Wis., who was appointed last week to succeed Harley W. MacKenzie, who was dismissed by the commission several months ago.

Vanderwall has been employed by the commission for the last thirteen years, and in recent years has been chief of the state forest protection division. He has been instrumental in much of the activity to conserve the state's timber, to foster replanting, and to build an effective and well-equipped organization to stop the heavy losses from forest fires. He has spent most of his life in forestry work.

The conservation commission is taking steps to prepare legislation which will prevent indiscriminate cutting of pulpwood and timber in the future. A bill to be introduced in the next legislative session is based on a report submitted by Robert B. Goodman of Marinette, Wis., chairman of a special committee on forestry cutting practices. He is a director of the Northern Paper Mills, Green Bay, Wis. Mr. Goodman announced that pulp mill owners and pulpwood jobbers have been willing to enter into voluntary agreements to conform to cutting regulations adopted, but believed legislation was essential. He also recommends reduction of the tax rate on lands entered under the forest crop law so as to expand the entries, now discouraged because the annual tax of ten cents per acre is higher than property taxes in some sections. This minimum tax applies until the timber is cut, when a severance tax is applied.

Personnel Changes in the Industry

Robert Whitefoot, Jr., who has been on the purchasing staff of the Institute of Paper Chemistry, Appleton, Wis., for the last four years, has resigned to take a position as assistant purchasing agent at Purdue University, La Fayette, Ind.

H. A. Rothschild, technical director of Kimberly-Clark Corporation, Neenah, Wis., has been named by the War Production Board as a member of the paper industry technical development committee. L. S. Johnson, chief chemist of the Cornell Wood Products Company, Cornell, Wis., also is serving on this committee. Another appointment announced is that of F. F. Sommers of Racine, Wis., as a member of the WPB advisory committee on Pyroxylin and Vinyl resin coated paper and fabrics.

R. F. Bellack, executive vice-president of the Fox River Paper Corporation, Appleton, Wis., is one of 100 top-flight business men who will report October 24 at For Leavenworth, Kansas, for a tough 30-day orientation course conducted by the U. S. Army. The purpose is to teach businessmen something about the army. The men will sleep in barracks, receive regular army food, and take basic military training. Upon completion, the army will pick them for special jobs that make the best use of their business talents. Another Fox River corporation executive serving with the government in the war effort is Arthur G. Wakeman, production manager. He has been on leave of absense since March, and has been appointed acting chief of WPB's pulp and paper division. He succeeds David J. Winton of Minneapolist, who resigned last week. Wakeman will serve until a successor is appointed.

Dr. William M. White will retire November 1 from his position as an internationally known engineer for Allis-Chalmers Manufacturing Company, Milwaukee, Wis. He has served the company for 31 years. Officers of the company held a testimonial dinner in his honor and presented him with an embossed resolution of appreciation from the board of directors.

Taylor D. Ward, sales manager for the Bergstrom Paper Company, Neenah, Wis., has resigned and is accepting a new position as divisional sales manager for Kimberly-Clark Corporation, Neenah. His headquarters will be at the Neenah offices. Succeeding Mr. Ward at Bergstrom's is Burt B. Fisher of Evanston, Ill., who has been in charge of the Chicago office of the company for the last twelve years.

Mosinee To Scrap Old Units

Mosinee Paper Mills Company, Mosinee, Wis., cooperating with the salvage commititee of the American Paper and Pulp Manufacturers Association, will produce 275 tons of scrap metal by dismantling two obsolete units of its power plant. Three large Sampson water wheels and three others, together with bearings, draft tubes, core wheels and bevel gears will be included. These wheels were installed in 1911 and have been inactive since 1923, when other and newer equipment was installed in later additions to the power plant. Later a number of huge girders spanning the space between the paper mill and boiler room will be dismantled and added to the salvage. In recent months, the company also has shipped out 420,775 pounds of assorted metals, 4,805 pounds of rubber and 1,845 pounds of rags, according to N. S. Stone, general manager.

Mills Contribute to Civic Improvements

The Thilmany Pulp and Paper Company and the Badgera Tissue Mills, Kaukauna, Wis., contributed towards a $500 fund for the purchase of land along the Fox River canal.

Forni-Peters Engagement Announced

The engagement was announced last week of Dr. Pasquale A. Forni and Miss Lois Peters, both of Appleton, Wis. Dr. Forni is a graduate of Rensselaer Polytechnic Institute, Troy, N. Y., and the Institute of Paper Chemistry, Appleton. Miss Peters is employed in the stenographic department of Kimberly-Clark Corporation, Neenah, Wis.

Paper Demand Report Best in Many Weeks

Increased Activity In Chicago Market Attributed To Threat of Impending Curtailment Order—Sales In All Major Grades Are Up — Paper Houses Ready For Community Drive — Other News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, ILL., October 19, 1942—The Chicago paper market is exhibiting more activity this week than for many weeks past. The threat of the curtailment order, an order, incidentally, which is in one of those "any day now" categories, has caused a real rush on the part of buyers to pick up merchandise. According to some reports it is another example of government administrators cautioning against "buying sprees" and then developing the exact situation which cause the sprees. What will follow after the order goes into effect is, of course, a matter of grave conjecture to an industry already plagued by about every by-product of the war program. However, all lines have responded to the buying spree and those grades and lines which have been exhibiting some price weaknesses and now crowding the "list ceilings" to the breaking point. Krafts, sulphites, groundwoods, newsprints, books and covers, bonds and ledgers—the entire list of papers finds itself in the same position of jumping from famine to feast and faced with the possibility of having to jump back again! The waste paper market found the weather and new "drives" combining to increase available stocks on hand and the new developments will be watched closely when the end of the month calculations and readjustments come along.

Industry Set For Annual Fund Drive

Chicago's paper housese are all set for the annual Community Fund Drive which always finds hard working paper trade executives out to raise their share of the $3,750,000 needed for Chicago's new stream lined charity program. Paper's quota will be $37,000 as compared to $33,000 for 1941 and the boost in quota is undoubtedly due to the fact that the trade raised $37,385 in 1941. More than 15,000 "employees" are on the list and the subscription is expected to exceed the $37,000 when the campaign closes early in December.

The Industrial chairman for the paper industry is Mr. Sterling Brown of the Champion Fibre Paper Company. His assistants as vice-chairmen of the respective divisions include the following: fine paper manufacturers, J. S. Conley, Fraser Industries, Inc., coarse paper manufacturers, John Diggs, Mosinee Paper Company; Paper boxes, Wesley M. Dixon, Container Corporation of America; folding box manufacturers, M. G. Fessenden, Ace Carton Corporation; Paper bags, E. Fritchie, Lincoln Bag Company; Set-up boxes, Harry Jaffe, Apex Paper Box Manufacturing Company; Waste paper, Albert Meisterheim; Boxes, D. M. Russell, Atlas Box Makers, Inc., Paper tags, A. G. Shannon, International Tag & Salesbock Company; Envelope and tablet manufacturers, J. A. Stack, Cupples-Hesse Envelope Company; Paper, John D. Swigart, Swigart Paper Company; Fine Paper dealers, A. B. Tucker, Parker, Thomas & Tucker; Textile bags, George Veeder, M. J. Neahr & Company; Coarse papers, Sam Weil, Joseph Weil & Sons.

Team captains selected for the drive included the following veterans of previous Community Fund campaigns—and some newcomers as well: R. W. Banks, Albemarle Paper Manufacturing Company; Raymond Bell, Southern Kraft Corporation; F. X. Brucker, Hartford City Paper Company; H. E. Eckhouse, Central Bag & Burlap Company; Henry C. Engel, Central Paper Company; Henry Fulton, Blundon-Lyon Paper Company; R. E. George, Tomahawk Kraft Paper Company; E. A. Maleski, Cupples-Hesse Envelope and Tablet Company; Frank Meiners, Filer Fibre Company; Fred Mudge, Midwest Paper Company; A. L. Reaum, Cupples-Hesse Envelope and Tablet Company; Clayton Seaman, Seaman Paper Company; B. E. Spinner, Chicago Paper Company; Gene Todd, Bermingham & Prosser Paper Company and Gordon White of the James White Paper Company.

OPA Explains Printing Paper Rulings

An accumulation of questions arising from the perplexing features of the OPA'S newest regulation governing the sale of printing and printing papers came to the surface in Chicago October 16 when over three hundred printers and paper suppliers met at the Morrison Hotel to hear the story as told by the printing and paper experts of the Office of Price Administration. After an explanation of the Order and the reasons why it was projected the meeting became a verbal free-for-all for questions which demonstrated certain paradoxes within the Order, many of its complexities and the "squeezes" it would place upon certain lines.

Explore New Chemical Resources

The technical divisions of the paper industry will find their interests again focused on Chicago on November 24 to 29 when the National Chemical Exposition will be held at the Sherman Hotel. Arrangements have been concluded between representatives of the industrial salvage section, conservation divisions of the War Production Board and the Chicago section of the American Chemical Society for furthering the conservation and salvage program and the WPB's move to salvage approximately 100,000,000 pounds of essential chemicals will feature the program. Possible substitutes for vital chemicals and the serious shortage in the sources of chemicals used in the manufacturing industry, including paper, will also be up for discussion and examination.

Inspirations for Printers

The West Virginia Pulp and Paper Company has just issued No. 137 of Inspirations For Printers. The Theme, Design for the Times, is reflected in the selection of color and black and white illustrations printed on the company's, fine Westvaco mill brand papers. The items included in this issue are Blendfold Enamel. Clear Spring Plate, Clear Spring Super Plate, and Piedmont Enamel.

Speculation on Effect of Newsprint Cut

Canadian Newsprint and Fine Paper Manufacturers Reported To Expect Extent of Contraction of Paper Industry Depends Upon Power and Labor Needs For War Supplies — Future Uncertain.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., Oct. 19, 1942—The paper trade in Canada is interested in the announcement that the U. S. War Production Board is expected shortly to issue an order curtailing the production of paper from wood pulp. The interest here arises from the fact that such a curtailment of production across the line would accentuate the demand on Canadian producers.

Further curtailment of operations of Canadian pulp and paper manufacturers is forseen in the declared policy of the Dominion government to curb non-essential industries. Both newsprint and fine paper makers expect to have to contribute a larger share of available electrical energy and labor for the benefit of industries considered more essential to the war effort. The newsprint industry has been operating at around 65% of capacity and it is thought that it might have to cut down to at least 50% of full capacity.

Speculation on Reduced Production

It is pointed out here that even with the present rate of production and consumption of newsprint in the U. S., if maintained throughout 1943, it would mean a market for Canadian newsprint mills of about 2.5 million tons. Production in the Dominion, with the mills working at 50% capacity, would amount to about 2,150,000 tons. Out of this total production Canadian mills would have to take care of a minimum British demand for 225,000 tons and the domestic requirements of about 200,000 tons. This would leave 1,725,000 tons available to U. S. publishers. Where would the other 775,000 tons come from, even if U. S. production were not curbed?

Present indications are that there will be a shortage of newsprint during the last two months of this year of about 20,000 to 30,000 tons, with government authorities on both sides of the line considering further curtailment of operations. However, advance buying by publishers has resulted in an accumulation of somewhere around 600,000 tons, or approximately 200,000 tons more than the normal supply. Taking 30,000 tons from this backlog would not materially affect the situation as a whole.

Apprehension Over Fine Papers

The present lull in the paper trade may only be the proverbial one which precedes the storm, according to Howard Smith Paper Mills, Ltd. Surveying the immediate outlook, the company notes that orders and restrictions appear to be following one another at an increasing rate. This, it contends, is a natural corollary to the attempt to prevent supplies and prices finding their own level.

Frequent mention has recently been made of the necessity of directing more manpower, electrical power and materials into war channels, the company adds. As these are universally used by businesses either directly or indirectly, any curtailment of them is due to affect all businesses. These are the main signs, says the company, and "we would do well to keep an eye on them."

Enlarging upon these points, the company says the power situation becomes more acute each shortening day, and "undoubtedly the fine paper industry will be asked to give up some of their purchased power which will curtail their present output."

Manpower Shortage Threatens

"Then, too, manpower in the woods, already in short supply, is likely to be aggravated still more by switching the workers from pulpwood to timber logging. Both of these factors heralds a reduction in the volume of fine paper available to printers and their customers. And because the need is urgent, we can expect whatever actions are necessary to occur sooner rather than later—that is, well before the end of this year. However, the full effects will not be noticed at first because considerable stocks are available, sufficient to take care of most, if not all, of today's commitments. But all of us should plan now how we will operate on a curtailed volume of business."

It is pointed out that the Wartime Prices and Trade Board has been requested to eliminate non-essential business, and even to curtail essential ones to the minimum requirements. Now all these businesses are users of printing and paper to some extent and, as they pass out of the picture, the total volume will be reduced because other kinds of businesses are not going to be allowed to take their place.

"If we appear to paint a black picture," the company continues, "it is only so because it is in contrast with the rosy hue reflected by the many who have learned that the shortage of 1941 in reality turned out to be a simple case of over-demand and protective forward buying. Actually, there will still be plenty of printing done, indeed there must be, because printing is absolutely essential to every kind of industry as long as that industry operates."

Congratulates Paper Trade Journal

The edition of the *Paper-Maker and British Paper Trade Journal* felicitates us as follows:

"Congratulations to our United States contemporary, THE PAPER TRADE JOURNAL, which this year celebrates the seventieth anniversary of its birthday. It was first published in May, 1872, as a bi-monthly by Mr. Howard Lockwood, whose name is still perpetuated in the title of the present firm, the Lockwood Trade Journal Company. Since 1876 it has been published as a weekly. Its companion publication, LOCKWOOD'S DIRECTORY OF THE PAPER AND ALLIED TRADES, founded in 1873, is equally as world known. I always look forward to receiving its issues, for it is one of the most informative of the American paper trade journals."

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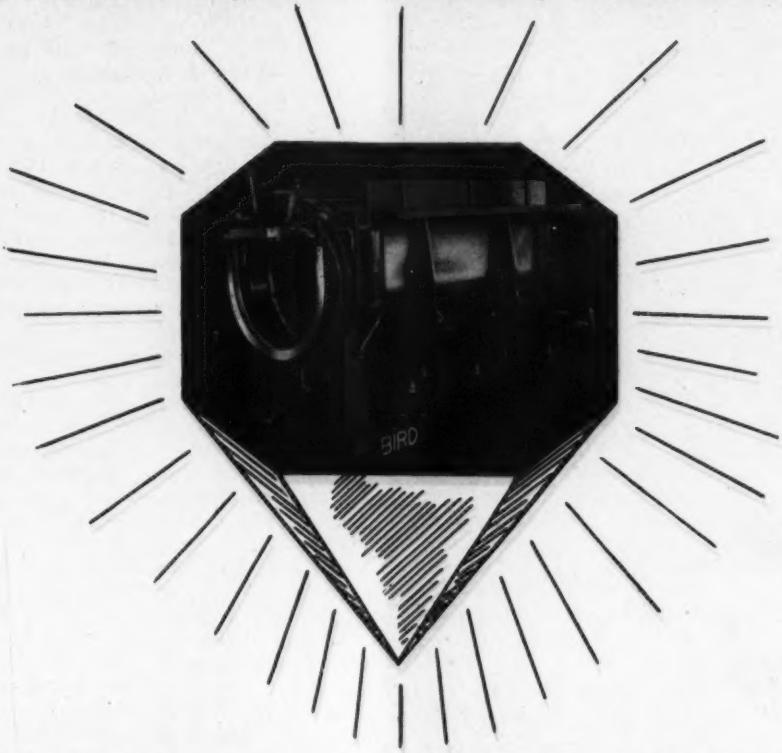

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Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 21, 1942—The Government Printing Office has received the following bids per pound for 500,000 pounds of white sulphite writing paper, 32 x 30: Baldwin Paper Company, Inc., 5.3163 cents; D. L. Ward, 6.46 cents; the Mead Sales Company, 6.2 cents; Bulkley, Dunton & Co., 5.43 cents; North American Pulp and Paper Corporation, 5.75 cents; Bradner Smith & Co., 5.92 cents; Wilcox-Walter-Furlong Company, 5.99 cents; Walker-Goulard-Plehn Company, 5.96 cents; the Whitaker Paper Company, 5.43 cents; Stanford Paper Company, 5.99 cents; Paper Corporation of US, 5.4 cents; the Old Dominion Paper Company, 5.7249 cents; Marquette Paper Company, 5.90 cents; Eastern Corporation, 4.77 cents; Cauthorne Paper Company, 5.1 cents; Butler Company, 5.59 cents; the Barton, Duer & Koch Paper Company, 5.43 cents; and R. P. Andrews Paper Company, 5.43 cents.

For 200,000 pounds of 21 x 30 white sulphite writing paper, bids per pound received were: Baldwin Paper Company, Inc., 5.3163; D. L. Ward, 6.46 cents; the Mead Sales Company, 6.2 cents; Bulkley, Dunton & Company, 5.43 cents; North American Pulp and Paper Company, 5.75 cents; Bradner Smith & Co., 5.92 cents; Wilcox-Walter-Furlong Paper Company, 5.99 cents; Walker-Goulard-Plehn Company, 5.96 cents; The Whitaker Paper Company, 5.43 cents; Stanford Paper Company, 5.99 cents; Paper Corporation of US, 5.4 cents; the Old Dominion Paper Company, 5.7249 cents; Marquette Paper Company, 5.90 cents; Eastern Corp., 4.77 cents; Cauthorne Paper Company, 5.1 cents; Butler Company, 5.59 cents; The Barton Duer & Koch Paper Company, 5.43 cents; and R. P. Andrews Paper Company, 5.43 cents.

For 80,000 pounds of 34 x 44 yellow sulphite writing paper, bids per pound received were: R. P. Andrews Paper Company, 6.83 cents; Barton, Duer & Koch Paper Company, 6.83 cents; the Baxter Paper Company, 6.93 cents; Butler Company, 7.03 cents; Eastern Corporation, 5.77 cents; Marquette Paper Company, 6.72 cents; the Old Dominion Paper Company, 6.3328 cents; Paper Corporation of US, 6.1 cents; Stanford Paper Company, 6.55 cents; Walker-Goulard-Plehn Company, Inc., 7.09 cents; the Whitaker Paper Company, 6.83 cents; Wilcox-Walter-Furlong Paper Company, 6.99 cents; Bradner Smith & Co., 6.12 cents; North American Pulp and Paper Corporation, 6.3 cents; Bulkley, Dunton & Co., 7.12 cents; the Mead Sales Company, 7.42 cents; Bermingham & Prosser Company, 7.44 cents; D. L. Ward Co., 6.74 cents; and Zellerbach Paper Company, 6.762 cents.

For 153,000 pounds of 28 x 34 yellow sulphite writing paper, bids per pound received were: R. P. Andrews Paper Company, 6.83 cents; Barton, Duer & Koch Paper Company, 6.83 cents; the Baxter Paper Company, 6.93 cents; Butler Company, 7.03 cents; Eastern Corporation, 5.77 cents; Marquette Paper Company, 6.72 cents; Mathers-Lamm Paper Company, 7.28 cents; the Old Dominion Paper Company, 6.3328 cents; Paper Corporation of US. 6.1 cents; Stanford Paper Company, 6.55 cents; Walker-Goulard-Plehn Company, Inc., 7.09 cents; the Whitaker Paper Company, 6.83 cents; Wilcox-Walter-Furlong Paper Company, 6.99 cents; Bradner Smith & Co., 6.12 cents; North American Pulp and Paper Company, 6.3 cents; Bulkley, Dunton & Co., 7.12 cents; the Mead Sales Company, 7.42 cents; Bermingham & Prosser Company, 7.44 cents; D. L. Ward Co., 6.74 cents; and Zellerbach Paper Company, 6.762 cents.

For 100,000 kraft envelopes, 14½ x 18, bids received were: United States Envelope Company, $18.35; Milwaukee Envelope Co., $17.00 less 1%; Garden City Envelope Company, $16.77 less 2%; Paper Craft Corporation, $19.25.

For 70,000 pounds of 50% rag white index paper, 34½ x 44, bids received per pound were: the Aetna Paper Company, 11.27 cents; R. P. Andrews Paper Company, 11.07 cents; the Barton, Duer & Koch Paper Company, 9.84 cents; the Central Ohio Paper Company, 12.99 cents; Graham Paper Company, 12.92 cents; the Mudge Paper Company, 10.47 cents; Paper Corporation of US, 10.19 cents; Frank Parsons Paper Company, 12.31 cents; Stanford Paper Company, 10.75 cents; Walker-Goulard-Plehn Company, Inc., 11.44 cents; the Whitaker Paper Company, 10.46 cents; Wilcox-Walter-Furlong Paper Company, 12.4 cents; Bradner Smith & Co., 14.7 cents; Bulkley, Dunton, & Co., 10.52 cents; Bermingham & Prosser Company, 12.92 cents; and Collins Mfg. Co., 11.2 cents.

For 324,310 pounds of 42 x 64 white sulphite writing paper, bids per pound received were: Bermingham & Prosser Company, 5.75 cents; North American Pulp and Paper Company, 6.25 cents; the Central Ohio Paper Company, 6.59 cents; The Mudge Paper Company, 6.66 cents; Bulkley, Dunton & Co., 5.94 cents; R. P. Andrews Paper Company, 5.72 cents; Marquette Paper Corporation, 6.10 cents; The Whitaker Paper Company, 5.61 cents; D. L. Ward Company, 6.38 cents; Stanford Paper Company, 6.22 cents.

For 35,900 pounds of 25% rag white bond paper, 40 x 52½, bids per pound received were: R. P. Andrews Paper Company, 12.47 cents; The Mudge Paper Company, 11.22 cents; Paper Corporation of US, 11.85 cents; Resolute Paper Products Corp., 12.25 cents; Stanford Paper Company, 11 cents; Walker-Goulard-Plehn Company, 11.74 cents; Wilcox-Walter-Furlong Paper Company, 12.25 cents; Bradner Smith & Company, 11.18 cents; Bulkley, Dunton & Co., 10.94 cents.

For 47,000 pounds of 44 x 64 white offset book paper, bids per pound received were: Aetna Paper Company, 7.56 cents; Barton-Duer & Koch, 6.95 cents; and Stanford Paper Company, 7.57 cents.

For 340,000,000 pounds of telephone book newspaper, bids per pound received were: R. P. Andrews Paper Company, 4.283 cents; Butler Company, 4.68 cents; Cauthorne Paper Company, Inc., 4.68 cents; Graham Paper Company, 4.68 cents; Walker-Goulard-Plehn Company, 4.95 cents; Bradner Smith & Co., 4.68 cents; Bulkley, Dunton & Co., 4.45 cents; Bermingham & Prosser Company, 4.82 cents.

For 10,000 pounds of 24 x 36 rope manila paper, bids per pound received were: R. P. Andrews Paper Company, 19.5 cents; Resolute Paper Products Corporation, 25.195 cents; Paper Corporation of US, 20.25 cents.

For 50,000 pounds of 32 x 42 Maxopaque paper, bids per pound received were: the Aetna Paper Company, 8.53 cents; Barton, Duer & Koch Paper Company, 8.68 cents; and Stanford Paper Co., 8.58 cents.

For 100,000—100% rag white writing envelopes, bids per thousand received were: Enterprise Paper Company, $5.97; R. P. Andrews Paper Company, $6.06; Barton, Duer, Koch Paper Company, $5.16; Virginia Paper Company, $6.40; Whitaker Paper Company, $5.80; Dayton Envelope Company, $5.28; P. L. Andrews Corporation, $5.98; and Mathers-Lamm Paper Company, $5.90.

For 21,555 pounds of 50% rag yellow index paper, single-ply, 34½ x 44, bids per pound received were: Collins Manufacturing Company, 11.19 cents; Bermingham & Prosser Company, 13.73 cents; Bulkley, Dunton & Co., 12.03 cents; Bradner Smith & Co., 15.84 cents; Wilcox-Walter-Furlong Paper Company, 13.06 cents; the Whitaker Paper Company, 10.67 cents; Walker-Goulard-Plehn Company, 12.43 cents; Stanford Paper Company, 13 cents; Resolute Paper Products Corporation, 15.5 cents; Paper Corporation of US, 10.44 cents; the Old Dominion Paper Company, 13.044 cents; the Mudge Paper Company, 10.47 cents; the Central Ohio Paper Company, 12.47 cents; the Barton, Duer & Koch Paper Company, 10.7 cents; the Baxter Paper Company, 11.25 cents; and the Aetna Paper Co., 11.27 cents.

For 40,000 pounds of rope manila paper, 24 x 36, bids per pound received were: R. P. Andrews Paper Company, 18.5 cents; Paper Corporation of US, 20.25 cents; and Perkins-Goodwin Company, 18.5 cents.

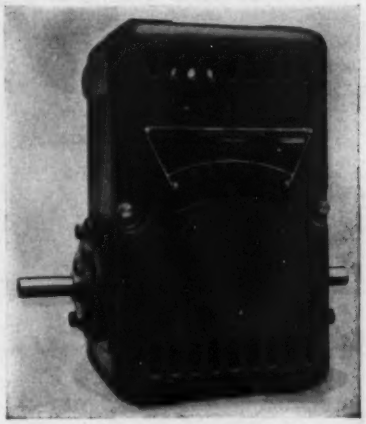
For 21,800 pounds of drumhead manila paper, 32 x 42, bids per pounds received: the Cromwell Paper Company, 12.5 cents; the Mudge Paper Company, 20.5 cents; Paper Corporation of US, 23.5 cents; and Perkins-Goodwin Company, 19.5 cents.

For 200,000 pounds of white sulphite writing paper, bids per pound were: R. P. Andrews Paper Company, 5.43 cents; Butler Company, 6 cents; the Central Ohio Paper Company, 5.74 cents; Eastern Corporation, 5.52 cents; Marquette Paper Company, 5.98 cents; the Old Dominion Paper Company, 5.748 cents; Paper Corporation of US, 5.84 cents; Stanford Paper Company, 5.99 cents; Walker-Goulard-Plehn Company, 5.94 cents; The Whitaker Paper Company, 5.43 cents; Wilcox-Walter-Furlong Paper Company, 5.99 cents; North American Pulp and Paper Company, 5.25 cents; Bulkley, Dunton & Co., 5.43 cents; the Mead Sales Company, 6.3 cents; Bermingham & Prosser Company, 6 cents; D. L. Ward Company, 6.46 cents; and Baldwin Paper Company, Inc., 5.3137 cents.

For 162,500 pounds of white sulphite manifold paper, 21 x 32, bids per pound received were: Seaman Paper Company, 8.22 cents; Import Paper Company, 7.92 cents (less 2%); Baldwin Paper Company, 8 cents; Fitchburg Paper Company, 8.41 cents; Bermingham & Prosser Co., 8.344 cents; Bulkley, Dunton & Co., 9.6 cents; North American Pulp and Paper Company, 8 cents; Bradner Smith & Co., 8.41 cents; Wilcox-Walter-Furlong Paper Company, 8.5 cents; Walker-Goulard-Plehn Company, Inc., 8.5 cents; Virginia Paper Company, 8.5 cents; Stanford Paper Company, 8.3 cents; Resolute Paper Products Corporation, 8.25 cents; Paper Corporation of US, 8.1 cents; The Old Dominion Paper Company, 8.237 cents; the Mudge Paper Company, 8.25 cents; Mathers-Lamm Paper Company, 8.19 cents; Marquette Paper Company, 8.73 cents; Graham Paper Company, 8.44 cents; the Central Ohio Paper Company, 8.25 cents; Cauthorne Paper Company, 8.3 cents; Butler Company, 7.96 cents; the Baxter Paper Company, 8.21 cents; and Garrett Buchanan Company, 8.75 cents.

New Variable Speed Drive

A new variable speed multiple V-belt-drive is announced by the Worthington Pump and Machinery Corporation. The manufacturer of this unit calls it the "allspeed drive." The first of these to be made available is the model A which has a horsepower



ALLSPEED DRIVE

range of from one-third to three-quarters horsepower with a speed ratio of 16 to 1, that is, any speed from ⅛ to twice the driving motor speed. This drive is said to be exceptionally compact, ball-bearing equipped, and so designated that it can be operated in any plane. Further, it can be directly coupled to any standard motor and the output shaft can be run at motor speed, and is flexible enough to be applied to any type of machine within its power range.

An interesting feature of this drive is its mechanical, positive belt-tensioning device which automatically compensates for increased arc of belt contact which results from changing from low to high speeds. In this tensioning device no springs are required. A further feature is the fact that the drive need not be dismantled to change belts. According to the manufacturer other sizes are now being developed for 1 to 3 hp., 3 to 5 hp., 5 to 7¼ hp., and 7½ to 10 hp.

While these drive units were originally intended for application to machine tools, they are already being successfully used on numerous other types of equipment.

Index of Paper Value Rises

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 21, 1942—Indexes of the value of paper producers inventories were 155.8 in August and 152.7 in July, as compared with 124.2 for August a year earlier, using 1939 average month as 100, according to a report by the Bureau of Foreign and Domestic Commerce.

Paper producers shipments indexes were reported at 131 in August, and 126 in July, as against 154 for August, 1941, using the 1939 average month as 100.

Michigan Superintendents Meet

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., October 19, 1942—The October dinner meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents Association was held at the Park American Hotel, Thursday evening, October 15, with 53 present. Al Perdick, the new chairman presided and expressed the officers' appreciation of the satisfactory turnout.

Program Committee Appointed

A program committee consisting of L. H. Breyfogle, Ray L. Barton, O. W. Callighan, Fred Hodgemire, M. S. Fogerty, Joe Waber, Al Perlick with Glenn Sutton chairman, was appointed for handling the year's activities. The speaker for the November meeting, November 19, will be a traffic expert from the Grand Trunk Western Railroad, who will discuss wartime traffic and transportation problems, Mr. Sutton announced.

Two speakers had been scheduled for this October meeting, Dr. G. F. Des Autels, director of research for the Kalamazoo Vegetable Parchment Company, and Colonel H. F. Wilkinson of the quartermaster corps, Fort Custer. The latter, however, was unable to appear.

Dr. G. F. Des Autels Speaks

Dr. Des Autels' topic was "War Time Food Packaging" and it referred principally to containers for hydrated food products. The first part of his address was devoted to the development of the hydrated food industry, the experimental work done, the problems encountered and its eventual acceptance as a proven product. A number of packages of hydrated products were displayed by the doctor and inspected with much interest. The balance of his talk was devoted to the research developments of his company and the paper industry in general in perfecting satisfactory packages for these products which will supplant those formerly manufactured of the now critical materials. A large number of hydrated foods each present a different problem, to figure the correct treated papers for its manufacture, among which are to make them greaseproof, moistureproof and moldproof. The detailed account of the laboratory research work was of interest and Dr. Des Autels has given long hours to this new demand upon the industry. At the close of his ttalk numerous questions were asked of him which constituted an instructive forum.

Those in Attendance

The following attended the meeting:—

W. Hastle, Michigan Paper Company; Ralph Atkins, Lee Paper Company; H. L. Bills, Saniwax Paper Company; A. F. Bigelow, American Coating Mills; Robert Buss, Hercules Powder Company; D. D. Bachelder, Sutherland Paper Company; Ray L. Barton, Michigan Paper Company; W. J. Cassidy, Hawthorne Paper Company; Fred L. Chappell, Sutherland Paper Company; E. T. Coughlin, Bryant Paper Company; Art Coffin, Titanium Pigment Corporation; H. C. Church, American Coating Mills; Fred S. Crysler, Container Corporation, Wabash, Ind.; A. W. Cole, Rex Paper Company; W. E. Crotty, Bryant Paper Company; Paul de Guehery, Michigan Paper Company; J. C. Dean, Michigan Paper Company; E. M. Deane, Jr., American Box Board Company; Geo. F. Des Autels, Kalamazoo Vegetable Parchment Company; D. Robert Erickson, Michigan Research Laboratory; F. D. Elliott, Michigan Research Laboratory; J. J. Ely, Peninsular Paper Company; B. E. Freeman, Sutherland Paper Company; M. S. Fogerty, Michigan Paper Company; Chas. Gardner, Lee Paper Company; E. O. Goll, American Box Board Company; C. F. Hoelderle, Anheuser-Busch Company; Hod Heath, Rex Paper Company; J. B. Hanna, American Box Board Company; J. A. Heenan, Sutherland Paper Company; A. F. Kletzien, Saniwax Paper Company; L. H. La Liberte, Kalamazoo Vegetable Parchment Company; R. W. Long, Container Corporation, Wabash, Ind.; L. H. Mimms, Kalamazoo Paper Company; E. G. Milham, Watervliet Paper Company; Howard Merkle, Sutherland Paper Company; P. F. Neumann, Hercules Powder Company; Henry Neudorf, Rex Paper Company; A. W. Riedel, Riedel Brushes; Chas. B. Rady, Sutherland Paper Company; Jacob Parent, Noble & Wood Machine Company; Harry C. Pearson, Pioneer Paper Stock; Al Perlick, Kalamazoo Vegetable Parchment Company, chairman Michigan Division; L. W. Sutherland, chairman of board Sutheland Paper Company; Paul Schreiber, General Dye Stuffs Corporation; C. "Baldy" Smith, Douglas Robbins & Company; Al Sherwood and Glenn Sutton, Sutherland Paper Company; W. S. Taylor, American Cyanamid Corporation; George Vannie, Beloit Iron Works; H. O. Ware, Hercules Powder Company; Arnold Weller, Sutherland Paper Company, and Joe Waber, Rex Paper Company, secretary-treasurer Michigan Division.

To Open Paper Bids Nov. 23

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 21, 1942—Subject to official approval by the Joint Congressional Committee on Printing, bids for paper for use of the Government Printing Office for six months beginning January 1 next will be opened November 23 and the Committee will meet a week later, November 30 to make awards.

The Paper Specification Committee of the Joint Committee had several meetings last week. This committee will have further meetings to go over the specifications. When the committee has completed its work, it will be placed before the Joint Committee which always approves its recommendations. The dates for the opening and awards, however, will have to be officially approved by the Joint Committee.

A. G. Wakeman Heads Paper Branch

[FROM OUR REGULAR CORRESPONDENT]

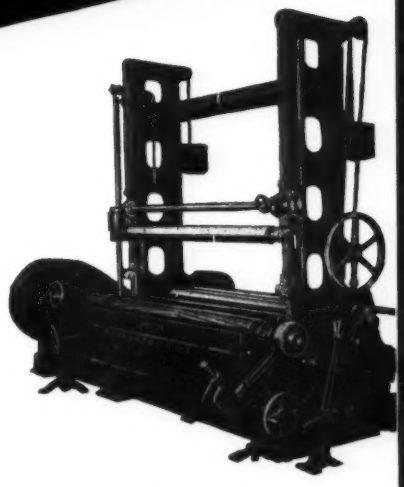
WASHINGTON, D. C., October 21, 1942—Announcement of the appointment of Arthur G. Wakeman as Chief of the Pulp and Paper Branch was made by A. I. Henderson, Deputy Director General for Industry Operations.

Mr. Wakeman was operating manager of the Fox River Paper Corporation, Appleton, Wis. before coming to WPB in March of this year. He succeeds David J. Winton, who has resigned.

FROM JOB TO JEEP . . .

Every punch on a time clock is a punch that punishes our enemy. Here, as in hundreds of other places, paper does its part.

To the men and machines backing up the plural fronts, nothing less than 100% effort is expected. And that is what we all must deliver.



SAMUEL M. LANGSTON COMPANY, Camden, New Jersey

LANGSTON

Slitters and Roll Winders

Key Kampaign is Big Success

BOSTON, MASS., October 19, 1942—A million and a half keys contributed by *Boston Post* readers were turned over on Saturday, October 17, in front of City Hall, to the New England paper and twine industry as a part of the nation-wide Key Kollection Kampaign. The keys were accepted for the industry by Matthew O. Byrne, treasurer of Whitney Bros., Inc., general chairman of the New England Paper Merchants Association's regional committee; Floyd H. Blackman, president of D. F. Munroe Company, chairman of the committee in charge of the distribution of the key containers, and J. Allan Odaniel, who directed the industry's campaign in the six New England States. They were presented by Chester C. Gray, representing the *Boston Post.*

Mr. Munroe directed the distribution of 200,000 cardboard key containers in all parts of New England.

The officials of the paper and twine industry were warm in their praise of the Post drive, noting the two huge Key Kettles filled to the brim by Post readers and the wooden barrels pressed into service to handle the overflow.

They also disclosed the many, many thousands of keys dsopped into the cardboard containers throughout New England, which are being gathered in as rapidly as possible, and said that 100 pounds of key metal is equivalent to 2,000 pounds of scrap iron to Uncle Sam. There were many hundreds of pounds in the Key Kettles alone.

A substantial share of the credit went to the school children of Boston, while grownups, including a number of prominent people, did their part, some in a spectacular way.

The smelters which receive the keys will pay the regular rate for this type of metal. The money will be turned over to the USO.

At the refineries designated by the Government, the nickel-silver will be extracted and will be sent to navy gun-makers to meet existing shortages in metal used in the construction of big guns that will arm the navy.

Retail Price Increases Denied

WASHINGTON, D. C., October 21, 1942—Increases in the retail prices of paper products were denied to two manufacturers by Price Administrator Leon Henderson in actions carrying out OPA's policy of meeting reductions in the quantity or quality of an article with a commensurate reduction in price.

The applications for price increases made by the Papyrus Company, of Kenilworth, N. J., and the Erving Paper Mills, of Erving, Mass., were those rejected, but the Administrator said that at least seven similar applications from paper products manufacturers will be rejected on the same grounds.

Since all the manufacturers had based their applications in part on claims that the quantity reductions were the result of limitations orders by WPB, Mr. Henderson said:

"The standardization of producers ordered by the WPB cannot be used as a lever for raising prices unless the limitation orders really cause substantial hardships."

In all cases reviewed by OPA the manufacturers' and retailers' over-all profit position was found to be only slightly affected.

WPB to Control Pulpwood

WASHINGTON, D. C., October 21, 1942 — Machinery for control of distribution of pulpwood is established by order M-251 announced by the WPB Director-General for Operations.

The order also provides that producers of wood pulp must file reports showing receipts, consumption, and inventories of pulpwood for each mill they operate. The first of such reports is required by November 5, and reports must be filed by the 5th of each month thereafter. For mills located in the States of Washington and Oregon, form PD-661 is to be used, and for mills elsewhere form PD-656.

Other sections of the order provide for allocations of pulpwood to follow such determinations as may be issued by the Director-General of Operations. They also authorize the Director-General to require establishments of reserve supplies of pulpwood and to limit or prohibit particular uses of designated types in any area where a shortage is found to exist. The Director-General is further authorized to require any person to whom allocation of pulpwood is made to use it for the specific products or purposes.

A press dispatch stated that WPB officials said that certain critical areas will be set up in subsequent action, and declined to predict the extent to which production might be curtailed in these areas. They conceded the possibility that some mills in the Puget Sound area might be closed, at least temporarily.

WPB authorities made no statement as to possible effects of the order on the newsprint industry.

B. C. Packs Apples in Cardboard Boxes

Apple growers in the Okanagan Valley in British Columbia packed apples in cardboard boxes this year for the first time in history. The move was necessary as a war measure due to shortage of lumber for wooden boxes. The heavy cardboard boxes were used on the short haul shipments, and wooden boxes used on long hauls. A great many wooden boxes formerly used in the fields to pick apples and bring them to the packing houses were sprayed with paint and used for shipment this year. It is estimated there were 2,000,000 boxes of McIntosh apples alone harvested this year in the Okanagan. This is about two to three hundred thousand boxes less than original estimates early in the season. Decline was due to excessive loss from dropping, and shrinkage in size.

Growers in the Okanagan will face a still more serious situation next year, according to A. K. Lloyd, general manager, B. C. Tree Fruits Ltd., which markets the crop, and he is now in Ottawa seeking priority on lumber entering into box shook manufacturing. It is expected that even if this is secured more extensive use of cardboard boxes will be made next year.

More Mills Awarded Minute Flags

Latest additions to the plants receiving Minute Man flags are the Neenah Paper Company, Neenah, Wis., and the Central Paper Company, Menasha, Wis. Their employees to the number of more than 90 per cent are contributing under the payroll deduction plan for the purchase of war bonds and stamps. The Central company stands 100 per cent, with all of its 55 employees participating. Eighteen employees have joined the armed forces to date.

CONSTRUCTION NEWS

Under limitations order L-41 all projects involving expenditures of more than $5,000 must be specifically approved by the War Productions Board. The status of projects reported herewith under the provisions of the order is not known.—EDITOR.

Baltimore, Md.—The Baltimore Paper Box Company, 1300 Covington street, manufacturer of corrugated paper boxes and containers, has approved plans for alterations and improvements in one-story building at 1301 Covington street, to be used for storage and distribution. No estimate of cost announced. General contract has been awarded to W. E. Bickerton Construction Company, 101 West Twenty-second street, Baltimore, and work will be placed under way at once.

Savannah, Ga.—The Rathborne, Hair & Ridgway Company, 1440 West 21st place, Chicago, Ill., manufacturer of corrugated boxes and containers, and other packing containers, has approved plans for new building on Louisville road, near Magazine street, Savannah, to be used as a local factory branch, including storage and distribution. It will be one-story, reported to cost close to $25,000, including equipment.

Marrero, La.—The Celotex Corporation, 120 South LaSalle street, Chicago, Ill., manufacturer of insulation board, is operating at close to maximum production schedule at main mill at Marrero, or in excess of output at this time a year ago. Majority of production is for Government account for army and navy barracks, cantonments and similar developments. It is expected to hold to present production schedules for an indefinite period. Company has recently developed a new siding, formed of granule-surfaced cane fiber board with asphalt surface, and output of this material is now on a heavy basis.

Tacoma, Wash.—The Standard Carton Company, 2611 Pacific avenue, manufacturer of folding paper boxes and containers, has begun erection of new one-story addition to plant, recently referred to in these columns, and will push work to early completion. It will be equipped for expansion in production division. No estimate of cost has been announced. Calvin J. Kirk, Tacoma, has general erection contract.

Cincinnati, Ohio—The Clopay Corporation, Clopay square, manufacturer of paper products, is developing a number of new specialties, including a fiber and wood curtain rod, designed to replace steel rods. Plant is operating on a high production schedule.

Philadelphia, Pa.—The Light Corrugated Box Company, Decatur and Tulip streets, manufacturer of corrugated paper boxes and containers, is completing new one-story addition to plant, previously referred to in these columns, and structure will be occupied at early date for storage and distributing service. Cost is reported over $25,000, with equipment.

Toronto, Ont.—Acme Ruler & Advertising Company, 512 Rhodes avenue, manufacturer of paper specialties, is planning early rebuilding of portion of plant, recently damaged by fire, with loss estimated close to $20,000, including equipment.

Temiskaming, Que.—The Canadian International Paper Company, Sun Life Building, Montreal, Que., has begun work on new addition to branch mill at Temiskaming, used for production of wood cellulose specialties. It will be one-story, designed for storage and distribution service. Bennett-Pratt, Ltd., 30 Bloor street, West, Toronto, Ont., has general erection contract.

TAPPI Notes

Andrew Ryfun, formerly of the Champion Paper and Fibre Company, is now with Rayonier, Inc., Fernandina, Fla.

Edwin P. Jones, formerly of the Ancram Paper Mills, is now with the Development and Engineering Section of the Eastern Regional Research Laboratory, Philadelphia, Pa.

John F. Reardon, formerly of the Valley Paper Company, is now a service engineer for the National Aluminate Company, Chicago, Ill.

James A. Dean, formerly of the Dexter Sulphite Pulp and Paper Company, is now chemist with the Michigan Paper Company, Plainwell, Mich.

A. Ward Tedrow, formerly of the Equitable Savings and Loan Association, is now inspector for the Hawley Pulp and Paper Company, Oregon City, Ore.

Robert J. Seidl, formerly of the Merrimac Paper Company, is now in the Pulp and Paper Branch of the Forest Products Laboratory, Madison, Wis.

Papers may be tested for brightness now at the Massachusetts Institute of Technology. Inquiries should be addressed to Prof. Hardy, Room 308, M. I. T., Cambridge, Mass.

The Pacific Section of TAPPI will meet at Camas, Wash., on November 3, 1942.

High Water Helps War Production

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 19, 1942—The level of the huge Sacandaga Reservoir has been raised considerably within recent weeks by heavy rainfall making it possible for the release of sufficient water to keep war production plants running at capacity. Several of the large paper mills in this section are dependent upon it to maintain full time operations and shutdowns are rare since the reservoir was placed in operation. Announcement was made this week that the reservoir stored about 30 billion gallons of storm water during the past month, the gates being closed in order to impound the water besides preventing flood damage. It was also stated that the reservoir now is at its highest elevation during the past ten years which creates an available storage of 154 billion gallons of water. This huge storage will make it possible for paper mills on the Hudson River, devoted to defense production, to operate at capacity. Among the concerns in this section assessed for the cost and maintenance of the reservoir are the International Paper Company, Fort Miller Pulp and Paper Company, Finch Pruyn & Co., and others.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending October 17, 1942

STOCKS

	High	Low	Last
A. P. W.	1¾	1½	1½
Armstrong Cork Co.	28⅞	28⅝	28¾
Celotex Corp.	7⅜	7⅛	7⅜
Celotex Corp., pf.	70	69¾	69¾
Certain-Teed Products Corp.	2⅝	2⅜	2⅜
Certain-Teed Products Corp., pf.	29¾	28½	28¾
Champion Paper & Fibre Co.	18	17¾	17¾
Champion Paper & Fibre Co., pf.	96	95⅜	95⅜
Congoleum Nairn Co.	16	15⅝	15⅝
Container Corp. of America	15¾	14¾	15⅜
Continental-Diamond Fibre Co.	6⅞	6⅞	6⅞
Crown-Zellerbach Co.	11⅞	11⅝	11⅞
Crown-Zellerbach Co., pf.	84½	84	84
Dixie-Vortex Co.	8¾	8¼	8¼
Dixie-Vortex Co.—A	36⅞	36⅜	36⅞
Flintkote Co.	12¾	12⅛	12⅛
Robert Gair	1¾	1¾	1¾
Robert Gair, pf.	9⅞	9⅛	9⅛
International Paper Co.	9¼	8½	8¾
International Paper Co., pf.	47	45½	45¾
Johns-Manville Corp.	61¾	60⅜	60½
Johns-Manville Corp., pf.	127	127	127
Kimberly Clark Corp.	26⅛	26⅛	26⅛
MacAndrews & Forbes	18	17⅛	18
MacAndrews & Forbes, pf.	....	....	....
Masonite Corp.	28½	28	28⅛
Mead Corp.	6½	6¼	6⅜
Mead Corp., pf.	66	64¾	66
Paraffine Companies, Inc.	30½	30½	30½
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	9¼	9⅛	9⅛
Rayonier, Inc., pf.	26	25½	25¾
Ruberoid Co.	19¼	18½	19
Scott Paper Co.	35½	35	35⅛
Scott Paper Co., pf.	110	110	110
Sutherland Paper Co.	21¾	21	21¾
Union Bag & Paper Corp.	7⅞	7½	7⅞
United Paperboard Co.	3¼	3⅛	3⅛
U. S. Gypsum Co.	55⅝	54½	55⅛
U. S. Gypsum Co., pf.	173½	173½	173½
West Virginia Pulp & Paper Co.	13	13	13
West Virginia Pulp & Paper, pf.	97½	97½	97½

BONDS

Abitibi Pulp & Paper Co. 5s '53	48⅞	48¾	48¾
Celotex Corp. 4½s '47	98¼	97⅞	98
Certain-Teed Products Corp. 5½s '48	91½	90¾	91¼
Champion Paper & Fibre Co. 4¾s '50	105	105	105
Champion Paper & Fibre Co. 4¾s '50	103½	103½	103½
International Paper Co. 6s '55	105	104⅞	105
International Paper Co. 5s '47	103½	102¾	102¾
Mead Corp. 4½s '55	....	....	....
West Virginia Pulp & Paper Co. 3s '54	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending October 17, 1942

STOCKS

	High	Low	Last
American Box Board Co.	4⅛	4	4
Brown Co., pf.	....	....	....
Great Northern Paper Co.	28½	28¾	28½
Hummel-Ross Fibre Corp.	....	....	....
National Container Corp.	9⅛	9⅛	9⅛
St. Regis Paper Co.	1⅜	1½	1⅜
St. Regis Paper Co., pf.	110½	108	110
Taggart Corp.	2¾	2¾	2¾

BONDS

American Writing Paper Co. 6s '61	84¼	83⅛	83⅛

Brown Corporation Appointments

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, QUE., October 19, 1942—Wentworth Brown has been appointed vice-president of the Brown Corporation of La Tuque, Que., and Jean Paul St. Laurent, of Quegec a director of the corporation, while Henry P. Kendall has been elected chairman of the reconstructed board of directors.

After attending Andover Academy and Williams College, Mr. Brown joined Brown Company at Berlin, N. H., in 1929. There he worked in the Burgess Mill and the research laboratory. Two years later he came to La Tuque where he was placed in charge of production. Under his direction operations of the Quebec mill have been considerably expanded and today Brown Corporation ranks as one of the principal pulp concerns in the Dominion. Since coming to La Tuque, Mr. Brown has taken an active interest in municipal affairs and is a member of the school board. He also is active in the Technical Section of the Canadian Pulp and Paper Association and the American Pulp and Paper Association. In addition to these interests, he is a vice-president of St. Maurice Power Corporation, in which Brown Corporation holds a half interest.

The new board of Brown Corporation consists of nine members with a personnel as follows: Robert Braun, Portland, Me.; O. B. Brown, Berlin, N. H.; H. P. Carruth, Berlin, N. H.; J. B. Challies, Montreal, vice-president and executive engineer of The Shawinigan Water and Power Company; John J. Hagerty, Boston, Mass.; Henry P. Kendall, Boston, Mass.; G. A. Morris, Montreal, vice-president and director of Ogilvie Flour Mills; J. P. St. Laurent, Quebec City, and L. A. Whittemore, Boston, Mass.

Jean Paul St. Laurent has been appointed secretary of the corporation.

Marathon Elects Officers

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, WIS., October 19, 1942—A. M. Van Douser was elected secretary and treasurer of the Marathon Paper Mills Company, Rothschild, Wis., at the quarterly meeting of the board of directors at the company's offices October 9, according to announcement of D. Clark Everest, president. He fills the vacancy caused by the recent death of P. M. Wilson, who held both offices for many years. Mr. Van Douser was assistant secretary and treasurer for many years.

Mr. Wilson's place on the board of directors has been filled by the election of A. P. Woodson, who is president of the Mosinee Paper Mills Company, Mosinee, Wis.

Two officials of the Menasha Products division of Marathon at Menasha, Wis., have been elected, M. E. Reierson as assistant secretary, and E. H. Lewandowski as assistant treasurer.

Mr. Everest announced that a dividend of 50 cents per share has been declared on common stock as of record October 19, and will be payable October 29.

MacAndrews & Forbes Loses

MacAndrews & Forbes Company for the September quarter reports net profit, after $105,000 provision for Federal income and excess-profits taxes, was $129,711, equal, after preferred dividend requirements, to 33 cents each on 303,894 shares of common stock, against $151,700, or 40 cents a share, in preceding quarter and $140,638, or 37 cents a share, for September quarter, 1941, when taxes totaled $58,000. Nine months: net profit, after $319,089 Federal income and excess-profits taxes, was $427,877, or $1.11 a common share, compared with $572,282, or $1.59 a share, last year, when tax deductions were $376,000.

Appoint Committee for Paper Box Meeting

The National Paper Box Manufacturers Association, of which C. W. Reiber Columbus Paper Box Company, Columbus, Ohio, is president, will hold its silver anniversary convention at The Drake, Chicago, May 16 to 19 inclusive, 1943.

For the convention, Chairman Reiber has appointed the following members for the General Convention Committee:

George E. Mueller, chairman, of Best Paper Box Company, Chicago; Arthur H. Kroeck, Kroeck Paper Box Company, Chicago; Edward F. Hager, Service Paper Box Company, St. Louis; Fred R. ZurSchmiede, of Kentucky and Finger paper box companies, Louisville; Charles W. Zumbiel, the C. W. Zumbiel Company, Cincinnati; A. G. Burry, Wayne Box and Printing Company, Inc., Ft. Wayne and Charles M. French, Great Lakes Box Company, Cleveland. Ex-officio members are C. W. Reiber, William R. Kreeger and Harry Edwin Roden.

Appoint Box Development Committee

At the suggestion of the War Production Board the National Paper Box Manufacturers Association has appointed a development committee, to create setup paper boxes in substitution of containers made of critical materials.

The first meeting of the committee was held at the office of the association, in Philadelphia, October 20, followed by a session the following day in Washington, with W. W. Fitzhugh, Deputy Chief of the Containers Branch of WPB.

Mr. Reiber's appointments are: William P. Datz, Jr. (chairman), Datz Manufacturing Company, Philadelphia; William H. Perry, Cambridge Paper Box Company, Cambridge, Mass.; Walter E. Trum, Sr., of E. J. Trum, Inc. and Gerbereux, Dufft & Kinder, Brooklyn; Robert E. Crotty, The Waterbury Paper Box Company, Waterbury, Conn. and New York; Ed. S. Dillard, Old Dominion Box Company, Inc., Charlotte, N. C.; Allen K. Schleicher, F. J. Schleicher Paper Box Company, Inc., St. Louis; George S. Denning, W. C. Ritchie & Co., Chicago and G. Edgar Mooney, Mooney & Mooney, Inc., Newark, N. J.

Paper Concerns Do Defense Work

TROY, N. Y., October 19, 1942—Among the concerns in this section listed with the defense effort through direct or indirect government contracts are the Behr-Manning Corporation, Albany Felt Company, Eastern Tablet Company, Wheeler Paper Company, F. C. Huyck & Co. and the Townsend Machine Company. There has been a rapid conversion of the machinery in all plants to war production since the first of the year and some concerns in this district have landed contracts which involve the addition of hundreds of workers, calling for extra plant facilities and other enlargements. During the last year, it is estimated that employment in this section has increased more than 8,000 with a wage increase estimated annually at about $10,000,000.

APPLETON

Our name-plate does not go on many of the things we are making today. It is of little importance in defeating our enemies who does the job. The point is that it gets done . . . and quickly. That is why we are working harder and longer than ever before. Tomorrow, because of our part in the war program, you will find us better equipped to serve the paper industry.

PAPER AND PULP MILL MACHINERY

THE APPLETON MACHINE COMPANY
APPLETON WISCONSIN

War IS Hell! **Yet this war could be worse than hell. Crucial battles will be lost and needless thousands of lives sacrificed unless our fighting men get all the equipment they need.**

Let's Look at the Cold Hard Figures: **Most of this equipment is largely made of steel. Our steel industry made sixty-seven million tons in 1940. It broke all records by producing eighty-three million tons in 1941. *Yet we need still more.* This year the steel industry *can* produce ninety million tons if you and other Americans will *gather up* and *turn in* six million *additional* tons of scrap.**

Why Scrap Is Needed: **New steel is made from scrap iron and pig iron—about half and half. Because the scrap has already been refined it cuts down priceless production time.**

What Can YOU Do? Plenty! **Be sure you have salvage committees with energetic chairmen to go over every inch of your plant and yards. Gather all the scrap iron you can find and call the scrap dealer. He'll hurry it off to the steel mills *to help win battles, save lives* and *shorten the war.* All scrap collected will be purchased by the steel industry at government-controlled prices.**

Back Up Our Fighting Men: **The least you can do for our fighting men, perhaps someone close to you, is give them the equipment they *must* have. Will you? Every minute is precious. Get in the scrap —fast. The American Rolling Mill Company, Pipe Sales Division, 2931 Curtis Street, Middletown, Ohio.**

ARMCO

This advertisement is in support of Salvage Program of the Conservation Division of the War Production Board.

CANADIAN MILLS CURTAIL

(Continued from page 7)

each mill is shutting down one day out of seven on staggered days rather than on Sunday so as to spread the power load more evenly over every day of the week, an estimated 40,000 horsepower has been saved by the staggering.

Wood Pulp for Flooring Materials

Particulars have just been received here from Stockholm of a new flooring material now being manufactured in Sweden as a substitute for linoleum carpets. The big linoleum factory, Forshage Linoleum, which had been shut down for some time for lack of linseed oil, is now producing the new material, which is called "Forbolin," and is reported to be quite equal if not superior to the genuine article in wearing and other qualities. In its manufacture the linseed oil binder has been replaced with a specially prepared chemical pulp in combination with oil derivatives from such pulp. Addressing the experts and officials who were present at a demonstration of the new floor covering, C. A. Wicander, the head of the Forshaga concern, said that it had not been a question of starting any profitable new manufacturing line but to solve a two-fold social problem: to provide a suitable flooring material for dwelling houses when ordinary linoleums could not be produced, and to get work at the factory restarted after a period of enforced stoppage.

Whether "Forbolin" carpets will supplant linoleums in the future is, he said, a question that will be decided by the supply and prices under normal conditions of the respective raw materials.

Sorg Pulp Co. Uses Jackpine

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., October 17, 1942—The lowly jackpine tree, hitherto thought valueless, is coming into its own in the Cariboo, and is being cut by the Sorg Pulp & Paper Company along the P. G. E. Railway, mostly around Taylor Lake, near 70 mile House, B. C. The timber is being used by the Sorg Company at its Port Mellon plant, on Howe Sound, to be converted into kraft paper. It is brought to Squamish on the P. G. E. and taken to Port Mellon by barge.

Neither E. T. Turner, vice-president of the Sorg Company or H. N. Simpson, general manager, would remark on the development, except to say that the company has been cutting Jackpine only since the summer months.

Superintendents to Meet at Atlanta

The Southern Division and the Southeastern of the American Pulp and Paper Mill Superintendents Association will be held November 12-14 at the Biltmore Hotel, Atlanta, Ga. Serious, wartime business will be paramount, but for needed relaxation, there'll be golf, a unique barbecue, a swell feature at the banquet in the person of Hon. Billie Beard—and the headline gridiron clash between Georgia Tech's Yellow Jackets and the Alabama Crimson Tide. The calendar for the ladies, likewise, is crowded with interesting events. Reservations should be made as early as possible.

Gair Old Timers Meet

The annual banquet of the Gair Old Timers Association was held on October 17, 1942, at the Hotel New Yorker, New York City. A special program was presented to commemorate the 10th anniversary of the founding of this unique association by those who had worked for Robert Gair or his company for a period of years. Despite its lack of formal organization — no dues, regulations, or obligations — over 100 Gair and ex-Gair men have attended the banquet each year.

The officers for 1942 were: Honorary President, Frank G. Wasgatt, retired, whose employment with Robert Gair began in 1887 and continued throughout his business career; President, Walter E. Ringle, Robert Gair Company; Inc.; Vice-President, Charles Burke, Gair Bogota Corrugated and Fibre Box Corporation; Secretary-Treasurer, H. B. Van Antwerp, Sinclair & Valentine Company.

The new officers elected at the banquet are: Honorary President, George Pauchner, retired, whose employment with Robert Gair began in 1887; President, Charles F. Stocker, Sweeney Lithograph Company, who was one of the organizers of the association and its first president; Vice-President, Frank Meyer, President Century Envelope Company; Secretary-Treasurer, H. B. Van Antwerp, Sinclair & Valentine Company.

This anniversary dinner was marked by the selling of War Bonds, the planning of a special gift to the war effort in memory of Robert Gair, special favors and menus, and the showing of an ever-enalrging gallery of photo murals of historical pictures of Mr. Gair and his employees.

New Literature

Bearing metals are discussed in a new bulletin issued by the Magnolia Metal Company, 18 West Jersey street, Elizabeth, N. J. It describes various lead-base metals which have been found to withstand long wear and shock loads. Suggestions for care of journal bearings are given. A description of Isotropic bronze bearings, die-cast by the crystal method is included.

Saving critical materials is the subject of Bulletin No. 506, issued by the Dravo Corp., 300 Penn avenue, Pittsburgh, Pa. It gives tabulations of comparative savings in metals by weight and cost. Comparisons are set up for oil, gas, and coal fired models of the Dravo heater system against the central steam plant system. Principles of combustion chamber and heat transfer and fuel economies are explained.

Spray nozzles are described in Bulletin No. 409, issued by the Chain Belt Company, 1600 West Bruce street, Milwaukee, Wis. It covers the company's Rex spray nozzles, which are stated to be non-clogging and throw a flat, fan-like spray with such force that dirt and grit are removed from most irregular surfaces.

Guatemala Classified Chemical Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 21, 1942—In Guatemala, paper of chemical pulp, weighing 150 grams per square meter, has been classified under customs item No. 473-3-1-3, with a duty of 3 cents per gross kilogram, according to a report received by the Department of Commerce.

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PAPER TRADE JOURNAL

This Reg. U. S. Pat. Off.

Henry J. Berger
EDITOR

Vol. 115 October 22, 1942 No. 17

COMING EVENTS IN PAPER INDUSTRY

New England Section. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

Delaware Valley Section. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

Lake States Section. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

Kalamazoo Valley Section. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

PRICES AND WAGES

Rising prices and wages under the heavy pressure of speeding up production, have for the past year been referred to as danger signals of inflation. The President issued a warning in his Labor Day address and said that the effort to curb inflation was faltering on three points, taxes, farm prices and wages. With production at capacity, a recent issue of *The Exchange,* the magazine of The New York Stock Exchange, points out that the Federal Government pays approximately 75% of any wage increase. Citing the 5% increase recently granted to "Little Steel," the article states that the net earnings of the steel industry in the last quarter of 1941 were 11.04% of gross revenues, while wages were abou 37.7% of gross revenues.

The rapid expansion in industrial production, according to some economists, has been the primary factor in creating a rapid rise in prices and wages. To speed up production under the great urgency for military supplies of many kinds, management has "bid up" the wages of workers in their efforts to increase output in their plants. This viewpoint is apparently supported by the proposal of The Boeing Aircraft Company, on October 16, to the WLB, that immediate increases in wages be granted to aircraft workers, to 95 cents an hour minimum working rate, to $1.50 an hour, compared with the present Boeing rate of 75 cents an hour for helpers, to $1.23 an hour for premium-rate mechanics. An official of the Boeing concern was reported to have declared that the new scale was necessary to alleviate a critical manpower problem, and that Boeing must double its working force by the end of 1943 to meet accelerated production schedules.

In a formal ruling on October 17, Wayne L. Morse, public member of the WLB, denied the request of the United Automobile Workers of America (C. I. O.) for an increase of $1 a day, in wages of the 115,000 workers of the Ford Motor Company. Mr. Morse said in part: "The request of the union for a wage increase as a 'cost of living adjustment' cannot be sustained, because during the period from January 1, 1941, to May, 1942 (when the hourly straight-time base pay was $1.20), the straight-time hourly rate of Ford workers increased approximately between 25 and 28%. It is to be noted that the cost of living for that period of time increased on a national scale only 15%. . . . The granting of a general wage increase in this case would amount in fact to creating a gross inequity when viewed from the standpoint of the wages paid in the industry as a whole. This would follow because the granting of a general wage increase would have an unstabilizing effect upon the wage structure of the industry, in that it would tend to cause employees elsewhere in the industry to feel that their wages should be increased accordingly. Thus another inflationary cycle of wage increases would be started."

In commenting on prices and the battle against inflation, the October issue of the *Business Bulletin,* published by La Salle Extension University, states that, "Although prices have been going up, they have only reached the level which prevailed during the prosperity period of the Twenties. They are approximately 32% higher than they were in August, 1939, but are still 40% below the peak which was reached shortly after the close of the last war. As an indication of the danger of too high prices, the present trend is more significant than the height which prices have already reached. They are not far from the level which has prevailed when business was fairly normal. The upward trend indicates that special efforts are needed now to prevent the advance from going too high. . . . The experience in the last war period indicates what can happen when farm prices are allowed to rise as rapidly as the unusual demand pushes them. At that time prices of farm products increased 115%. Farm land values increased 70%. . . At the bottom of the depression, farm prices declined from 230 to 62, as compared with the average price during 1909 through 1914. The situation required extensive relief measures by the government, and it resulted in hardship for farmers as well as others. . . . The most direct effect of higher prices is that on consumers. The cost of living has been rising almost as rapidly as the rise in the general price level. Since August, 1939, the cost of living has risen 19%. It is now close to the level which prevailed during the prosperity period of the Twenties. . . . Prices are important in our economic system not only for their effect on consumers,

but also of their effect on production. They not only determine the amount of goods purchased and who is able to purchase them, but also determine what will be produced. The way to stimulate production is to raise prices. . . . For that reason, not all price control need be designed to keep prices lower. Some prices may be allowed to rise or even encouraged to rise in order to increase production."

The recent appointment of James F. Byrnes, Director of Economic Stabilization, is the first serious attempt to achieve economic stabilization by the government. Mr. Byrnes has placed wages and salaries of all Americans under government direction by authorizing the War Labor Board to pass upon pay increases for workers earning less than $3,000 a year and for those earning less than $5,000 a year whose compensations are fixed by collective bargaining agreements. The Treasury, previously empowered to regulate salaries above $5,000, will now pass upon all compensations above $3,000 that are not regulated by NWLB. Director Byrnes, at the first meeting of his advisory board, instructed Secretary of Agriculture Wickard to submit proposals for dealing with rising farm wages, which has increased approximately 72% during the year. Measures for a more effective means of controlling inflation and establishing a more or less stable wartime economy will thus be undertaken and with the right kind of administration the new bureaus will provide, a definite improvement in the government's efforts to control inflation has at length been adopted.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1942		Corresponding Weeks—1941	
September 5	83.2	September 6	84.8
Sept. 12. (Holiday Week)	71.2	September 13	104.2
September 19	83.9	September 20	103.8
September 26	87.5	September 27	105.9
October 3	86.9	October 4	103.6
October 10. (Preliminary)	88.6	October 11	102.1

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1941	85.6	89.7	92.2	96.0	98.7	99.3	94.2
1942	104.5	103.9	102.9	100.4	95.3	87.3	75.8

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1941	101.0	99.7	105.2	106.2	100.4	97.4
1942	80.8	82.8	....	....	....	....

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941	1942
Year to Date..	68.9	78.5	85.7	69.9	80.1	86.2	95.4	92.1
Year Average.	69.9	80.4	79.8	71.5	83.4	85.6	97.4	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1937	83	89	89	91	88	80	69	77	72	70	57	47	75
1938	56	63	63	60	60	59	59	60	70	73	67	61	64
1939	65	73	76	74	69	73	68	77	82	91	88	77	77
1940	78	75	74	76	82	85	77	79	78	85	82	77	78
1941	81	88	89	89	91	94	93	98	95	99	98	90	92
1942	102	101	101	95	82	72	68	75	76	..	..	..	..

Week ending Sept. 5, 1942—78	Week ending Sept. 26, 1942—78
Week ending Sept. 12, 1942—65	Week ending Oct. 3, 1942—80
Week ending Sept. 19, 1942—81	Week ending Oct. 10, 1942—80

† Per cents of operation based on "Inch-hours" reported to the National Paperboard Assn.

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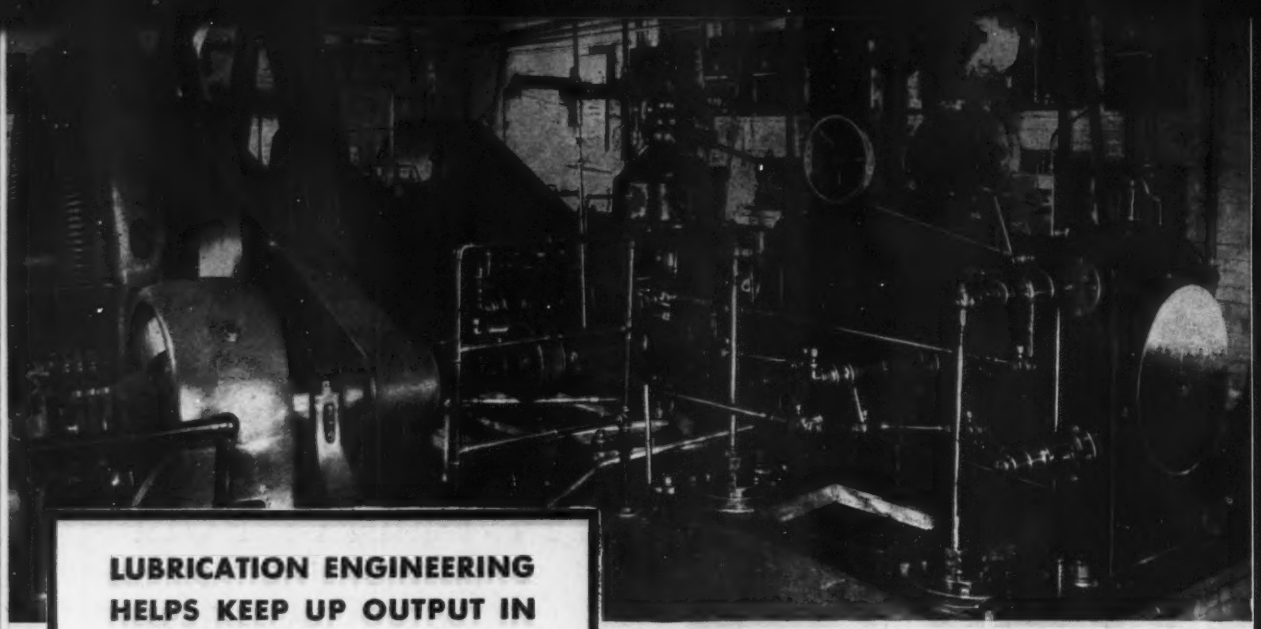

LUBRICATION ENGINEERING HELPS KEEP UP OUTPUT IN THESE TYPICAL PLANTS

PROBLEM—Excessive valve wear developed on the Corliss engine pictured above in a Wisconsin manufacturing plant. The engine would not pull its normal load—steam consumption was so high it was necessary to shut down to build up steam pressures.

SERVICE—Indicator cards were taken by the Standard Oil Engineer. Valves were set, new piston rings installed, and the engine started on Stanocyl Steam Cylinder Oil.

RESULT—The engine now operates satisfactorily on all loads—steam pressure is adequate and no time is lost in shutdowns. This, plus a 30% reduction in lubricating costs.

• • •

PROBLEM—To double flour production, a central states mill had to increase capacity of the Corliss engine. Boiler pressures were raised from 140 lbs. to 180 lbs. Engine speed was increased from 80 RPM to 120 RPM. Because of increased pressures and speed, frequent inspections were made. These soon revealed a marked increase in piston and ring wear. Oil carryover became a serious problem.

SERVICE—A Standard Lubrication Engineer analyzed operating conditions. A force feed lubricator and atomizer were installed. The engine was started on a high grade Standard cylinder oil, and feed adjusted to one pint of oil per million sq. ft. of rubbing surface.

RESULT—The reduced feed helped eliminate oil carryover—effecting a worthwhile saving in boiler cleaning labor and promoting safer boiler operation. Frequent inspections showed ring wear was reduced 75%—indicating adequate lubrication. Most important, the Engineer's recommendations answered this operator's question on how to avoid shutdowns and excessive maintenance.

OIL IS AMMUNITION . . . USE IT WISELY

AVOID SHUTDOWNS ON OVERWORKED STEAM ENGINES

• Are power demands pushing your generating equipment to the limit? If so, there are a number of questions which you'd like answered. How long will your equipment stand the added strain? How soon will shutdowns for maintenance seriously cut into power output? What can you do to avoid excessive repairs?

Standard Lubrication Engineers haven't all the answers, but they have helped many plants meet war-time loads. Examples of this service are briefly described at the left. See if they suggest ways one of these Engineers can help you. Then write Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago, Illinois, for the Engineer nearest you. In Nebraska, write Standard Oil Company of Nebraska at Omaha.

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STANDARD OIL COMPANY (INDIANA)

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Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
Edited by R. G. Macdonald, Secretary

Drainage Time and Drainage Factor of Pulp

TAPPI Tentative Standard T 221 m-42

This method relates to determining numerically a measure of the slowness of stock and may conveniently replace the freeness test in many instances. The tests are carried out with the same sheetmaking and other equipment as specified in TAPPI Standard T 205 m and the standard drainage time is obtained when preparing the standard test sheets according to the procedure there described by measuring the time required to form a sheet weighing 60 grams per sq. m. (moisture-free) at 60° C.

In general the drainage time is better suited for groundwood or beaten stock, as the test is insensitive for "free" pulps. The drainage factor *(1)*, on the other hand, which may be defined as the drainage time in seconds per gram of pulp used in the standard sheet machine at 20° C., may be applied satisfactorily to both very free and very slow pulps. For free pulps a substantial quantity of pulp (30 grams or more) is necessary for each determination of the drainage factor. Consequently, in some cases it may be inconvenient for pulp-testing work. It is, however, an excellent test for mill control work on stock preparation where as a rule plenty of pulp is available for test purposes.

Apparatus

1. Standard disintegrator (for pulp not in slush form).
2. Standard sheet machine and stirrer.
   The above equipment is as specified in T 205 m.
3. Stop watch graduated in 1/5 second or less.
4. Container for pulp, a suitable dipper or enameled cup, and a 1-liter graduated cylinder.

Calibration

Fill the container of the sheet machine to the mark 350 mm. from the wire with clean water and adjust the temperature to 20 ± 1° C. Quickly open the drain valve of the sheet machine and start the stop watch. Stop the watch as soon as the water leaves the wire.

Note: Water from a high-pressure main is sometimes aerated. In such case it should be allowed to become degassed in an open container before pouring into the cylinder, as the presence of air bubbles in the drainage pipe may reduce the drainage time.

The drainage time with the clean grid plate in position should be 3.5 seconds. If over 4.0 seconds, and the wire is clean, it is an indication that the drain valve is either dirty or else through wear its effective opening has become reduced, in which case the plug is easily removed and the hole suitably enlarged with a file.

The spare grid plate supplied with the apparatus should be used to check the cleanliness of the grid plate in use, using some slow stock, and if the drainage time with the new plate is reduced, the grid plate in use should be cleaned by a steam jet, by scouring with weak acid after a weak alkali wash, or by quickly dipping the plate in conc. sulphuric acid, followed by prompt washing in water. This check should be made at least weekly if the stock contains sizing and filler material. The concentrated acid is effective in dissolving or removing any cellulosic material.

The wire may also be cleaned in certain cases by inverting the plate over a Bunsen burner and carefully burning out the dirt. With this treatment, the wires will bulge out and care is necessary not to burn the fine wire. When the plate is cooled, the wires will return to their normal tautness and a very weak acid wash will complete the process. If none of these treatments is effective, the spare grid plate should be put into use and the old plate returned to the manufacturer for recovering.

Procedure

DRAINAGE TIME

The standard drainage time may be obtained at the same time the standard sheets are formed. The procedure is the same as for sheet making except that the finally diluted stock mixture in the cylinder should have a temperature within 5° of 20° C. (effected by adding some hot or cold water to the stock), and, after a preliminary stirring, the temperature of the stock is taken to the nearest 0.5° C.

After the standard stirring and pause of 10 seconds, open the drain valve and note the time taken in seconds for the formation of each sheet while draining from the 350-mm. mark to the wire. The couching of the sheet follows. Mark the sheets on which the drainage times are determined (a minimum of 3 sheets) with an indelible pencil and determine their average basis weight, separately for especial accuracy; otherwise it may be taken as that of the complete set of sheets.

REPRINT NOTE: Reprints of TAPPI Tentative Standard T 220 m-42 may be obtained from the Technical Association of the Pulp and Paper Industry, 122 East 42nd St., New York, N. Y., at 25 cents each.

If the cylinder is not provided with the new hinge and clamp, the use of a seal ring is desirable for very precise work, especially for very wet, beaten pulp, or pulps containing much loading material, having drainage times of upwards of 20 seconds. The method of using the seal ring is described in detail in *Tech. Assoc. Papers* 15:197 (1932) and *Paper Trade J.*, March 24, 1932, p. 40.

Calculation of Drainage Time

If d is the average drainage time obtained in seconds; $t°$ C. the average temperature of the mixture in the cylinder; and r the average basis weight (grams per sq. m. moisture-free) of the resulting sheets; then the standard drainage time in seconds for the standard conditions of 20° C. and 60 grams per sq. m. (dry basis) is approximately:

$$\frac{d(60-K)}{r-K} + \left(\frac{1}{V_t}-1\right)(d-4)$$

In this formula[1], K is a constant for a given type of pulp, usually about 25, the exact figure for which is preferably determined by experiment by plotting the observed drainage time d against a series of values of r over a range of say 50 to 70 grams per sq. m. at 20° C. and calculating the best value of K from the slope of the graph; V_t is 100 times the viscosity of water in C.G.S. units at temperature t.

To facilitate calculation, the following table gives the values of $(1/V_t - 1)$ for different temperatures:

Temperature Deg. C.	$\frac{1}{V_t}-1$	Temperature Deg. C.	$\frac{1}{V_t}-1$	Temperature Deg. C.	$\frac{1}{V_t}-1$
5	—0.34	16	—0.10	27	+0.18
6	— .32	17	— .07	28	+ .20
7	— .30	18	— .05	29	+ .23
8	— .28	19	— .02	30	+ .25
9	— .25	20	0.00	31	+ .28
10	— .23	21	+ .02	32	+ .31
11	— .21	22	+ .05	33	+ .33
12	— .19	23	+ .07	34	+ .36
13	— .16	24	+ .10	35	+ .39
14	— .14	25	+ .12		
15	— .12	26	+ .15		

[1] The above formula was worked out empirically by J. d'A. Clark, after a large number of observations, and gives more accurate results than previous formulas which greatly overemphasized the temperature-correction effect for low drainage times.

Drainage Factor

Add a sufficient quantity of dispersed stock to the sheet machine to give a drainage time, after the standard dilution, stirring and pause of 10 seconds, of preferably 7 to 15 seconds and, subsequently, a greater quantity of stock to give a drainage time of a much longer period, preferably 20 to 40 seconds. After each has drained, couch each pad off the wire with blotters, dry and weigh to the nearest 0.05 gram. It is advisable to make duplicate determinations.

The amount of stock lost through the wire is almost exactly the same quantity in both cases, so the difference between the moisture-free weights of the pads formed at the long and short periods quite accurately corresponds to the increment of stock for a determined increase in the drainage time.

Calculation of Drainage Factor

The drainage factor, calculated in seconds per gram of dry pulp at 20° C., is given by:

$$\frac{\left[D+\left(\frac{1}{V_{t_1}}-1\right)(D-4)\right]-\left[d+\left(\frac{1}{V_{t_2}}-1\right)(d-4)\right]}{W-w}$$

In the formula D is the observed drainage time in seconds for a pad weighing W grams to form at temperature t, and d is the observed drainage time in seconds for a pad weighing w grams to form at temperature t_2, the factors $(1/V_{t_1} - 1)$ and $(1/V_{t_2} - 1)$ being taken from the preceding table of values.

The method is not appreciably influenced by the cleanliness of the wire, the size of mesh, the construction of the grid plate, or details of the drainage system, provided the initial effective head on the stock is 1150 mm. and the final head 800 mm.

Modified Method for Drainage Factor

For mill control or routine purposes, if a graph is drawn of the drainage time (at 20° C.) against weight of stock added, the curve becomes straight. If this straight line is extrapolated, it will cut the weight axis somewhere between 0.2 and 0.8 gram, depending on the amount of fine material in the stock. The drainage factor is the slope of this line when plotted for stock at 20° C.

For temperatures other than 20° C. the slope of this line may be calculated from the formula

$$\frac{D+\left[\left(\frac{1}{V_t}-1\right)(D-4)\right]}{W-w}$$

where D is the observed drainage time (about 20-40 seconds) for a sheet weighing W grams to form, and w is the weight at which the extrapolated graph has been found experimentally to cut the weight axis. For approximate work w may be assumed to be 0.3 gram for a free chemical pulp, 0.5 for slow groundwood and 0.7 for a slow headbox stock.

Report

The drainage time shall be reported as the average time in seconds to form sheets of 60 grams per sq. m. moisture-free basis weight at 20° C., to the nearest 0.1 second.

The drainage factor shall be reported as the average number of seconds required per gram of pulp to drain under standard conditions at 20° C. Results shall be reported to the nearest 0.01, if less than 1.0, and the nearest 0.1, if 1.0 or over.

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Newsprint Available for Cuba

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 21, 1942—Newspaper enterprises in Cuba are now permitted to import newsprint stocks for 1943, not to exceed 50 percent of the quantity allotted to them under 1942 quotas, according to an unofficial report received by the Department of Commerce.

Notes on Aspects of War Time Paper Making in Great Britain*

By C. Delderfield[1] and Julius Grant[1]

The principal factor dominating present day papermaking in Great Britain is, of course, the fibrous raw material position, since this left us deprived of all imported raw materials except the relatively small proportion of our total requirements which now comes in the form of wood pulp from the American continent. So far as nonfibrous raw materials are concerned, mills have been particularly fortunate, since there has been no real or continued shortage of any essential material. Utmost economy in all materials is, of course, practiced, quite apart from any question of shortage, and temporary difficulties, particularly as regards coal, chlorine and lime supplies have been experienced. These have usually been matters of transport, and some mills have had very difficult periods, the coal situation in particular being at times a source of considerable anxiety.

A rosin shortage was foreshadowed some time ago and papermakers prepared themselves for it by the investigation of substitutes, but this unfortunately has not yet materialized. Adequate supplies of alum are available, although the high qualities previously used have been replaced by a grade containing more iron, an interesting example of the explosion of the old papermakers' fallacy that ferrous alum could not be used for high grade papers. Practically the only material of importance which is now no longer available for actual paper manufacture, is starch, but this must be classed among the luxuries of papermaking rather than one of its necessities.

Straw as a Raw Material

The fiber situation is of much more importance and has affected different types of mills in different ways. Dealing firstly with mills which formerly digested esparto these have now turned over their digestion capacity mainly to straw, and, on the whole, the papers being produced may be regarded as of remarkably good quality. For good straw papers, however, the price must be paid of reduced production, resulting from lower yields (30 to 33% as compared with 40 to 43% for esparto) smaller digester charges (65 to 70% as compared with esparto) and slower running on the machine. Soda recovery figures too are reduced, owing to inherent difficulties in the washing of straw and the higher alkali contents involved. So far as the final paper is concerned strengths are in most cases as good as those of esparto papers, although of course, inferior to those of wood papers. This, however, is to some extent compensated by closeness and handle, although the paper must be well-conditioned if the cockling so detrimental to printing processes is to be avoided. Colors are good, especially in comparison with esparto papers and in view of the lower colors of present-day bleached wood pulps, but the greatest difficulty has been experienced in obtaining really clean straw papers. A peculiarity of shive from straw is that it is practically invisible in rough-finished or low-finished papers, but becomes startlingly conspicuous as soon as any kind of surface is put on the paper. Screening on an adequate scale reduces the dirt (but also the yield) and finer beating though effective to some extent by reducing the size of the shive, does not necessarily remove it. For many war-time purposes, however, printability is not of the first importance and whereas esparto was reserved mainly for printing papers, a large amount of straw finds its way into writings and in particular into "utility" papers of the engine-sized bond type for which it is very well suited.

The Problem Facing Many Mills

The real problem facing many digesting mills in this country is that of balancing quality against quantity, because all those factors which make for improved quality in straw decrease its yield or cause it to run slower on the machine. Until quite recently it seemed that the scales were tipping in favor of quality, but there seems little doubt that they are now swinging the other way and quantity may soon have to take an even higher degree of precedence. The shipping situation will of course principally determine the point of equilibrium, but it is interesting to note that while mills are encouraged to increase their straw production and steel is being made available for this purpose, there are indications that the authorities will first need to be satisfied that a mill asking for steel is obtaining the maximum output from its present plant. In this connection reference should be made to the considerable volume of research and development work which individual mills have devoted to their own problems, and which has resulted in the relatively high standards of output and quality of the present time; a welcome feature of this has been the general desire to pool information in the national interest and this has been reflected in the war-time meetings of the P.M.A. Technical Section. This organization has also set up a Technical Advisory Committee among its members, the function of which is to consider problems arising from war-time conditions, and suggestions for dealing with them.

A number of possible (and impossible!) alternatives to straw have been proposed, and some of these have even reached the stage of large-scale trials. Special reference might be made to wood shavings and other wood waste considerable quantities of which are available in various parts of the country. These result in pulps which though short-fibred and sometimes dirty (because of the mixed character of the waste and the relatively low pressures available for digestion) have a high yield, and a number of

* Presented at the Fall Meeting of the Technical Association of the Pulp and Paper Industry, Statler Hotel, Boston, Mass., September 30, 1942.

[1] John Dickinson & Co., Ltd., New York, N. Y., and London, Eng.

mills are using them on a large scale. In some cases it has even been found possible to include a certain amount of sawdust with them, and successful experiments are also recorded on sawmill offcuts and tree-cuttings which are available in large amounts in certain parts of the country where lumber operations are in hand. One drawback to wood waste is, as already mentioned, the difficulty of digestion, but probably a more important one is that associated with the collection of a large number of small scattered supplies of an extremely bulky material, especially under conditions of restricted petroleum consumption.

Other Substitute Raw Materials

Among the numerous other substitute raw materials which have received some consideration at any rate, are stinging nettles, potato haulms, bracken, hop vines and so on. However, the true situation does not always seem to be fully realized by those who put forward such suggestions. The problem confronting the pulp manufacturer is not *what* to digest but what to *digest* it in; there is no real lack of raw material suitable for paper manufacture, but there is a lack of digestion capacity for it. Moreover, even assuming it to be possible to increase their digestion capacities considerably, the mills would still turn to straw, since there is at present (and likely to be while the war lasts) a considerable available surplus, and its technical drawbacks are on the whole fewer and of less importance than those associated with other suggested raw materials. Some of the misconceptions may have arisen from the fact that in 1941 there was a temporary shortage of straw for papermaking. This, however, was the result of a late harvest combined with a lack of general organization and collaboration between the farming and paper industries; the formation of the Straw Trading Company has eliminated the latter difficulty and it is unlikely that it will recur unless unpredictable misfortune of war intervene.

Many mills which formerly digested esparto also processed a certain amount of rag, and in addition there are many mills which digest rag but have no facilities for esparto. This means that there has been a considerable demand for rag, because now that the available wood pulp is so much reduced, rag has become the staple material of the latter type of mill, since rag boilers are seldom suitable for digesting straw. Considerable ingenuity has been exercised among papermakers in utilizing rags which before the war they would have scorned for the better grades of paper. Much of this work has been necessitated by the numerous and varied methods of impregnation which rag now undergoes, many of them connected specifically with war-time uses. Tent fabrics, antigas clothing, khaki rags and oily waste rags and of course "blitzed" material of all kinds may be instanced as examples; in many such cases the base material is often of good value, although the yield may be low. The problem has been that of obtaining a white material without undue loss of strength, and in most cases it has been solved, thereby bringing to the mill material which would otherwise have been unusable for any purpose. A notable contribution to this category of raw material is jute waste, and the gradual replacement of sandbagged defenses by more permanent structures has released a good deal of this to paper mills. Here again it has proved possible, by a new process, to obtain good colors and a clean pulp without undue loss of strength or yield. Linseed straw and flax waste are also possibilities of the same type, being strong and in ample supply, but it must be admitted that the problem of making a clean white paper from them has not as yet been completely solved.

An Encouraging Feature

It is an encouraging feature, and one contrasting sharply with the position in the last war, that in spite of the fiber shortage there has been no appreciable deterioration in the quality of papers intended for books and documents of permanent value. In fact, if anything there have been improvements in some grades owing to the presence of larger proportions of rag which have displaced the wood normally used in peace time. Thus the poorer-grade fibers are reserved mainly for paper for more ephemeral purposes. Papers for Government use must of course conform strictly to definite technical specifications, but even these are graded so that unnecessarily high qualities are not asked for; in this way the better grade fibers are conserved. Once the essential war requirements have been met, the remainder of the paper mill's output is divided on a Government license system between what may be termed papers which are essential to the war effort though they are not ordered directly from Government sources; and papers (now very few and comparatively small in quantity) ordered by customers for their own purposes and not necessarily of direct contribution to the war effort. The first of these also often have to be made to a technical specification, but the latter seldom do, although here again it is still possible for a customer such as a book publisher to obtain a high grade paper if he requires it for a purpose of permanent value.

Before the war British papermakers had become familiar mainly with Scandinavian types of wood pulp, and the transition from these to the American pulps now being received has involved a certain amount of adaptation. In the first instance, this has usually taken the form of collaboration between the laboratory and mill, so as to ensure the correct interpretation of these different characteristics. One of the principal points of difference which has struck British papermakers in this connection is the different beating characteristics of the American pulps, which in general hydrate more slowly. Once the papermaker has realized and become accustomed to this no real difficulty is presented, but the associated trouble of sizing these comparatively free pulps is one which has given him more trouble. On the other hand fewer pitch troubles have been encountered with unbleached pulps, and while no generalizations should be made it may be said that some of the pulps are a good deal stronger than their Scandinavian counterparts; this feature and the free tendency referred to have greatly facilitated the manufacture of paper from mixed straw and wood furnishes.

Cheap Writings, Wrappings and Boards

The above notes refer essentially to fine paper mills. For our present purpose others may be divided into makers of cheap writings and printings, and of wrapping and boards. These seldom have

digestion plants of any kind, and before the war the former relied almost entirely on imported wood pulp, usually sulphite pulp. As a matter of consequence, although they are treated rather more liberally than digesting mills so far as rations of wood pulp are concerned they have to work on a very narrow margin. Being as a rule high-production mills, they have therefore difficult problems to face, since they must rely to a great extent on waste paper; in this respect too they receive a more liberal ration than do digesting mills. The published methods of dealing with waste paper are very numerous and often suspiciously simple, but they have not always been able to survive practical tests, and under war-time conditions at any rate it seems that the principal influencing factor is the sorting. This is especially true of the products of "salvage drives" for waste paper, which produce large amounts of mixed waste in which high grade papers rub shoulders with the filthiest cardboard and worse. In view of the difficulty of sorting such material completely, the success being achieved by paper mills in the production of clean papers of good color and free from ink residues is noteworthy. In many cases mills have devised their own deinking process and judging by the results, these are proving remarkably successful, although it is unlikely that they bear much relationship to many of the suggestions that figure in the patent literature.

Board and wrapping mills too have had to face special problems of their own. Thus the former relied in peace time to a great extent on waste paper, and were in fact the only users of such material on any scale. Partly for this reason and partly because their product is often essential to the war effort they receive the lion's share of this material; their demands, however, are considerable, and they still have difficulty in making ends meet. This is a matter of great importance because much of their product is used directly for munitions of war, for example, shell cases, cartons, bomb components, etc. The influence of this is double-edged because a great proportion of this type of product goes to overseas forces, and whatever its fate there, it certainly does not come back as salvage in the same way that paper and board used within the country does.

The priority given to board mills in this respect and the difficulty of sorting also mean that a certain amount of really good paper is lost from circulation in this way.

Recent work, however, has suggested that an additional solution to the problem might be found in the partial digestion of straw to a stage at which it becomes suitable for use in boards as distinct from higher grades of paper. There is ample experience to show that a suitable pulp of this nature can be obtained without the necessity for pressure boiling, and indeed, in many cases existing equipment could probably be adapted for the purpose. On the other hand there are difficulties, for instance the type of mill which would use a process of this nature has no recovery plant and would have to dispose of the considerable quantities of impure alkaline liquors involved. Not only would this be uneconomical, but if a water-course is the only medium for disposal of the effluent the project would meet with opposition from the river authorities who still maintain their peace-time standards. Again even assuming the minimum of plant requirements, the capital outlay necessary to supply a board mill of any size would be considerable, and there is no certainty that it would have any post-war significance. However, in view of the straw surplus the use of partly-digested straw presents a possible solution to an urgent present need, and a problem which will not readily be abandoned.

Wrapping mills are to some extent in a similar position but their principal difficulty is the shortage of the strong fibers, particularly kraft, which are so important for their product. Where price has allowed it has been possible to meet this by the use of fibers such as better grades of rag and jute, which in peacetime would be inadmissible for wrappings; in other cases, partly-digested straw and waste paper have had to fill the gap, although as a result strength has had sometimes to be sacrificed.

Tendency Toward Thinner Substances

One aspect of war time papermaking which is common to the whole of the trade, is, of course, the tendency towards thinner substances. Some papermakers who have hitherto regarded their lower limit as about 40-45 grams per square meter have now adapted their machines and technique to such a degree that they can now almost halve this—and that too, on a furnish which is far from ideal for thin substances. Thus, it comes about that while a mill may be turning out little more than one-half of its prewar output expressed in tons, this corresponds with a considerably greater area of paper than that of the prewar production. This, therefore, represents an important contribution to the problem of making the maximum use of available raw materials since for many purposes the thinner substances of paper are at no disadvantage compared with the heavier substances formerly used.

Finally, amid these war-time preoccupations, British papermakers have felt it necessary to give some thought to possible postwar problems, particularly those connected with raw materials. Various shades of opinions on the postwar raw material situation have been expressed, and there are many who believe that the present position may be maintained for a considerable period, so much so that it may well be necessary to consider straw as a main postwar material and to adapt present policy accordingly. It is realized only too well that present-day straw pulp is not an ideal papermaking fiber; on the other hand, it is being produced in this country in plants which were designed originally for esparto, but which cannot be altered fundamentally under war-time conditions. With the better facilities for plant development available after the war it should be possible to evolve processes which give both better yields and qualities of straw, and there is evidence that investigations having these objects are being closely considered.

"Protected" or "Essential" Works

The prospects of concentration in the industry which loomed large some months ago have now become a consideration of relatively minor importance to the industry as a whole. A certain amount of voluntary concentration and closing of mills which for various reasons were unable to run at anything like full capacity has taken place; some of these reasons are outlined above. Most of the mills are,

however, now registered as "protected" establishments or "essential" works, the latter designation being an indication of an official appreciation of the importance of paper to the war effort. A large proportion of the output of such mills is used directly or indirectly for purposes connected with the prosecution of the war, and certain privileges notably as regards deferment of staff from other forms of whole-time national service are consequently afforded them. Despite such privileges the shortage of labor (especially unskilled labor) is among the principal preoccupations of paper mill managements at the present time, and one from which unfortunately, there is no obvious prospect of immediate relief; deterioration in the position is indeed more likely in the near future.

Wax Test for Surface Strength of Paper

TAPPI Tentative Standard T 459 m-42

Scope

The wax test method is applicable to coated and uncoated papers and is designed to measure the surface strength of paper or its resistance to picking. The waxes have graded adhesive powers so that when they are pulled from the sheet there is an increase in amount of pull administered to the surface fibers or coating as the wax numbers increase. The highest number of the wax in the series which does not disturb the surface of the paper is the numerical rating of pick.

Apparatus and Materials

The materials needed for the test are:

1. Bunsen burner or alcohol lamp.
2. Wooden block about 3½ × 1½ × ¼ inches, having a hole 1¼ inches in diameter near one end.
3. A series of hard-resin, nonoily waxes[1] numbered respectively from 2A to 32A. Each wax in the series is made up according to a specified formula and moulded in stick form and is progressively more adhesive than that of the next lower one in the numerical series.

Test Specimen

The test specimens shall be so selected from the sample secured by the official method for sampling as to be representative of the sample. They may be of any convenient size. The test specimens shall be conditioned for testing according to TAPPI Standard T 402 m and shall be tested under the atmospheric conditions therein specified.

Procedure

Place the test specimen on a smooth surface. This should not be glass or metal, nor should it be artificially cooled. A hardwood block or table top is satisfactory. The sheet to be tested should be separated from the block or table top by 8 or 10 sheets of paper.

Select a wax stick, make certain that the end is clean and flat and heat the end in an alcohol or low gas flame, rotating the stick slowly between the thumb and finger, until several drops of melted wax have fallen. (Do not let it catch fire.) Quickly place the melted end of the wax on the surface of the paper specimen, with firm but not undue pressure. Allow the wax to cool for 15 minutes. Place over the wax the wooden block having a hole 1¼ inches in diameter near one end. With the wax protruding through the hole of the block, press the block down firmly with one hand and with the other pull the wax from the sheet with a quick jerk at right angle to the paper surface. Examine both the tip of the wax and the specimen. Repeat the test if necessary, using the waxes in ascending numerical order until the surface of the paper specimen breaks, picks or lifts. Make a separate test on each side of not less than 5 test specimens. On each test, record the highest numerical designation of the wax which does not disturb the surface of the paper, and average the results to the nearest number.

Report

The average highest numerical designation of the wax which does not disturb the surface of the paper shall be reported as the critical wax strength number. The report shall also include the number of tests made. In the case of uncoated paper, if it is possible to identify the two sides, results shall be reported separately for the felt side and the wire side.

On coated or machine-coated papers, the report should also state whether the picking or lifting occurred on the coating or on the body stock or both. This is determined by examining the wax after removal from the paper being tested.

Reference

Kirkpatrick II, William A. "The Use of Waxes and Case Testing Ink in Testing Printing Papers." *Paper Trade J.* 109, no. 12:36-38 (Sept. 21, 1939); *Tech. Assoc. Papers* 22:322-324 (1939).

[1] The waxes may be obtained from the Dennison Manufacturing Co., Framingham, Mass.

REPRINT NOTE: Reprints of TAPPI Tentative Standard T 459 m-42 may be obtained from the Technical Association of the Pulp and Paper Industry, 122 East 42nd St., New York, N. Y., at 25 cents each.

You Can Save Rubber

Containing an illustrated step-by-step procedure for making repairs on conveyor belts by the use of portable electric vulcanizers as one of its principal features, a new booklet, "Rubber Conservation for Users of Industrial Rubber Belting," has just been published by The B. F. Goodrich Company, Akron, Ohio, and is now available upon request to the manufacturer, or this publication.

"How You Can Save Rubber in Your Plant" is the general theme of the booklet, which is divided into interesting sub-headings of the general title, including "Rubber Can Be Saved by Making Vulcanized Repairs Promptly," "Rubber Can Be Saved by Salvaging Belts for Smaller Drives," "Rubber Can Be Saved by the Plylock Splice," and "Rubber Can Be Saved by Proper Care."

Interesting examples of savings already made, and valuable rubber conserved are given. These include the saving of two tons of rubber in a large conveyor belt by making vulcanized repairs and the cutting down of old belts and by removing worn piles, changing them into belts for smaller drives.

United States Patents on Papermaking

Third Quarter, 1942

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents which do not apply to pulp and paper manufacture.

Copies of any of the following patents may be obtained from the U. S. Patent Office, Washington, D. C., by sending ten cents for each patent desired. The number, name of the inventor and the title of the patent should be given in the request. Personal checks or postage stamps are not accepted in payment for patents. Books of coupons may be purchased for two or ten dollars, good for 20 or 100 patents. Coupon orders do not have to be accompanied by letters of transmittal.

July 7, 1942

R22,130. Apparatus for making laminated wrapping papers. Dallas Grant, assignor to Canada Paper Company, Montreal, Quebec, Canada. Original No. 2,136,739, dated Nov. 15, 1938. Application for reissue Oct. 29, 1940. 5 claims. (Cl. 154-37).

2,288,634. Method of treating porous materials. Christopher Luckhaupt, Jamaica, N. Y., assignor to L-K-L Processes, Inc. Filed July 28, 1939. 1 claim. (Cl. 91-70). The method of imparting enhanced hardness and resistance relative to liquids and electrical conductance to cellulose matter by treating it with terpin hydrate, admixed with a stearate, a wax, an oil, etc.

2,288,675. Press roll for papermaking machines. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed May 29, 1939. 2 claims. (Cl. 92-49). A press roll comprises a metal shaft, a soft rubber covering and a perforated relatively hard rubber covering over the soft rubber in bonded relation thereto; the hard rubber covering is compressible to decrease the volume of the holes when the covering is subjected to nip pressure.

2,288,720. Box-making machine. Cutler D. Knowlton, assignor to Hoague-Sprague Corporation, Lynn, Mass. Filed April 5, 1940. 12 claims. (Cl. 91-50). A machine for applying adhesive to box blanks.

2,288,786. Web straightening means. Fred M. Carroll, assignor to International Business Machines Corporation, New York, N. Y. Filed April 27, 1938. 19 claims. (Cl. 92-70).

2,288,832. Fibrous acoustic diaphragm. Victor T. Paré, assignor to Radio Corporation of America, New York, N. Y. Filed Aug. 31, 1937. 2 claims. (Cl. 181-32). An acoustic diaphragm of graded stiffness is formed from pulp fiber, the fibers being arranged in compact mutual relationship and being in more intimate association with each other in certain portions than in others.

2,288,841. Process for production of relatively stable alkali metal hypochlorite solutions. Burr H. Ritter, assignor to Hooker Electro-chemical Company, Niagara Falls, N. Y. Filed Oct. 26, 1940. 7 claims. (Cl. 23-86). The alkali metal hydroxide is chlorinated to the point where hydroxide is still present and the excess diminished by a chlorine-free carbonating agent.

2,288,896. Method of forming containers. Henry A. Fink, assignor to Continental Can Company, Inc., New York, N. Y. Filed July 17, 1941. 5 claims. (Cl. 93-39.1). Method of forming laminated paper walled container bodies.

2,288,946. Conversion and separation of the constituents of organic mixtures containing both fatty and resin acids, particularly tall oil. Frederick H. Gayer and Charles E. Fawkes, assignors to Continental Research Corporation, Chicago Heights, Ill. Filed July 17, 1939. 15 claims. (Cl. 260-97.5). The fatty acids are separated from the resin acids in tall oil by converting the first into their alkyl esters and the second into their zinc salts.

2,288,947. Conversion and separation of the constituents of organic mixtures containing both fatty and resin acids, particularly tall oil. Frederick H. Gaver and Charles E. Fawkes, assignors to Continental Research Corporation, Chicago Heights, Ill. Filed July 17, 1939. 9 claims. (Cl. 260-97.5). The alkyl esters of the fatty acids and the aluminum salts of the resin acids are separated.

2,288,987. Taping tool. Horace D. Allen, assignor to United States Gypsum Company, Chicago, Ill. Filed Nov. 1, 1941. 24 claims. (Cl. 216-33). A tool for taping wallboard joints.

2,288,966. Core for yarn or thread packages and method of making the same. Joseph E. A. Blanchet, assignor to Sonoco Products Company, Hartsville, S. C. Filed Dec. 5, 1940. 6 claims. (Cl. 93-94). A method of forming a paper core or tube by convolute winding.

2,289,013. Machine for working paper stock and similar material. Anto Joseph Haug, Nashua, N. H. Filed June 4, 1938. 9 claims. (Cl. 92-26). A refiner for crushing and refining the coarser constituents of a pulp which are rejected by the pulp screens.

2,289,229. Bituminous composition. David R. Wiggam, assignor to Hercules Powder Company, Wilmington, Del. Filed April 6, 1938. 10 claims. (Cl. 106-191). A homogeneous admixture of a bituminous material (coal tar, pine tar, gilsonite and stearin pitch) and ethylcellulose.

2,289,297. Crease breaking device. George Rein, Baltimore, Md. Filed June 20, 1941. 6 claims. (Cl. 93-49). A device for breaking predetermined creases of a crease flat blank while being directed into a gluing machine.

July 14, 1942

2,289,336. Method and means for applying sheet material to other material. Arthur P. Bamford, assignor to William F. Grupe, Lyndhurst, N. J. Filed Sept. 5, 1940. 27 claims. (Cl. 93-36).

2,289,294. Cutting apparatus. Gustave A. Ungar, assignor to S. & S. Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y. Filed July 13, 1940. 11 claims. (Cl. 164-68).

2,289,430. Papermaking machine. Irving C. Jennings, South Norwalk, Conn. Filed May 8, 1936. 11 claims. (Cl. 92-53). A suction box, with means of sealing the chamber against leakage.

2,289,560. Harold Warp and John R. Warp, Chicago, Ill. Filed Jan. 13, 1939. 14 claims. (Cl. 91-46). A tank for impregnating and coating sheet material.

2,289,612. Continuous beater and pulp selector. Harold Donald Wells, Glens Falls, N. Y. Filed April 16, 1941. 2 claims. (Cl. 92-23). A liquid and stock tank with a cylindrical pulp discharge screen disposed centrally and projecting upwardly from the tank bottom.

2,289,686. Paper manufacture. Brainard E. Sooy, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed July 7, 1939. 16 claims. (Cl. 91-51). An apparatus for applying a surface coating material having a volatile constituent to a web of paper material.

2,289,763. Coating apparatus. James F. Earp, assignor to The American Paper Bottle Company, Toledo, Ohio. Filed Aug. 15, 1940. 16 claims. (Cl. 91-46). An apparatus for coating containers or the like.

2,289,798. Coating apparatus. Gale F. Nadeau and Eugene R. Clearman, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Feb. 8, 1940. 6 claims. (Cl. 91-51).

2,289,820. Machine for opening shipping cases from the flat. Edgar Ardell, assignor to Standard-Knapp Corporation, Long Island City, N. Y. Filed March 14, 1940. 29 claims. (Cl. 93-6).

2,289,909. Corrugating machine. Henry B. Greenwood, assignor to F. X. Hooper Company, Inc., Glen Arm, Md. Filed Nov. 5, 1938. 8 claims. (Cl. 154-32). Machine for making corrugated board having two corrugator heads arranged in tandem.

2,290,053. Loop drier. Alpheus O. Hurxthal, assignor to Proctor & Schwartz, Incorporated, Philadelphia, Pa. Filed July 7, 1939. 8 claims. (Cl. 34-157). A nozzle structure for a loop drier.

2,290,072. Artificial leather. Philip F. Robb, assignor to Hercules Powder Company, Wilmington, Del. Filed Nov. 26, 1938. Filed Nov. 26, 1938. 5 claims. (Cl. 117-166). A flexible base web coated with layers of pigmented composition comprising nitrocellulose and ethylcellulose with a softener.

2,290,087. Fourdrinier wire stringing device and method. Earl E. Berry and Lloyd Hornbostel, assignors to Beloit Iron Works, Beloit, Wis. Filed Jan. 6, 1938. 11 claims. (Cl. 92-44).

2,290,119. Method and means for making bottle caps. Albert F. Pityo, assignor to Tristate Cap and Cap Machinery Company, Incorporated, Newark, N. J. Filed Aug. 3, 1940. 16 claims. (Cl. 91-16). A printing and coating unit for a strip of hood blanks.

July 21, 1942

2,290,170. Method for inspecting coated surfaces. Ferd Diffenbach, Pittsburgh, Pa. Filed Oct. 8, 1940. 3 claims. (Cl. 73-51). A method of coating a common plane surface of two adjoining detachably connected inspection blocks, allowing the coating to dry and separating the blocks to fracture the coating to expose cross-sectional areas of the divided coating.

2,290,200. Adhesive applying machine. John H. Murch, Herbert F. Cox, Jr., Howard M. Hill, and John E. Robinson, assignors to American Can Company, New York, N. Y. Filed May 19, 1938. 20 claims. (Cl. 91-51). A machine for applying thermoplastic adhesive in fluid form to web material.

2,290,223. Tape cutter. Donald R. Black and Harold W. Hoebel, assignor to Van Cleef Bros., Chicago, Ill. Filed Dec. 19, 1940. 6 claims. (Cl. 164-36).

2,290,386. Machine for manufacturing tying members. Walter R. Schindler, Los Angeles, Calif. Filed Aug. 2, 1940. 4 claims. (Cl. 154-1). A machine for uniting two continued strips of paper and a continuous supply of wires.

2,290,392. Wax coating composition and method of preparation. Gordon C. Thomas, assignor to The Lummus Company, New York, N. Y. Filed April 1, 1939. 2 claims. (Cl. 260-28). A flexible, moistureproof noncracking coating composition consists of a polymerization product of butadiene dispersed in a wax.

2,290,393. Method of preparing a wax-isobutylene polymer coating composition. Gordon C. Thomas, assignor to The Lummus Company, New York, N. Y. Filed June 10, 1939. 2 claims. (Cl. 260-28). A flexible, moisture-vaporproof noncracking coating composition is formed by dispersing a polymerization product of isobutylene (molecular weight of a tleast 50,000) in a wax.

2,290,466. Machine for perforating paper sheets. Hullett Desbarats, Montreal, Quebec, Canada. Filed Feb. 26, 1941. 11 claims.

2,290,496. Method of making storage battery separators. Bruno H. Schubert, assignor to National Lead Company, New York, N. Y. Filed April 14, 1939. 4 claims. (Cl. 136-150). A prefabricated storage battery separator is immersed in a solution of actvie organic ligneous compound.

2,290,557. Machine and method for perforating plasterboard. Thomas H. Heath, assignor to The J. B. Ehrsam & Sons Mfg. Co., Enterprise, Kans. Filed Sept. 8, 1938. 14 claims. (Cl. 164-89).

2,290,563. Toivo A. Kauppi, assignor to The Dow Chemical Company, Midland, Mich. Filed April 23, 1940. 7 claims. (Cl. 106-173). A low viscosity ethylcellulose (ethoxy content greater than 48%) and paraffin wax (melting above 100 deg. C.) with a blending agent.

2,290,564. Making of bags and envelopes. Theodore H. Krueger, Shelton, Conn. Filed April 19, 1939. 5 claims. (Cl. 93-35). Process of making a paper container having a heat-softened adhesive stripe for closing it.

2,290,601. Bleaching of ground wood pulp with preliminary bisulphite treatment. Joseph S. Reichert, Samuel A. McNeight and Howard L. Potter, assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 16, 1940. 7 claims. (Cl. 8-104). The pulp is treated with an acid sulphite bleach and then to an aqueous alkaline oxidizing agent such as hydrogen peroxide, an alkali peroxide, or an alkali perborate in the pH range 10 to 11 and at 80 to 120 deg. F.

2,290,608. Foil crumpling method and apparatus. George H. Evans, assignor of one-half to Richard K. Stevens, Washington, D. C. Filed Feb. 18, 1939. 8 claims. (Cl. 154-30). Apparatus for embossing sheet material.

2,290,633. Coated paper and paper products. Paul H. Cate, assignor to Kelco Company, San Diego, Calif. Filed Sept. 18, 1940. 8 claims. (Cl. 117-76). Paper is treated with water-soluble alginates to render it resistant to waxes, oils, and organic solvents; an outer coating of resins and waxes is finally applied.

2,290,655. Paper electrode element. John Thomay, assignor to Slayter Electronic Corporation, Columbus, Ohio. Filed Sept. 26, 1939. 9 claims. (Cl. 183-7). An electrode has an outer covering of semiconductive paper for imparting a resistive characteristic to its surface.

2,290,741. Impregnated fiberboard. Clarence R. Eckert, assignor to The Celotex Corporation, Chicago, Ill. Filed March 3, 1938. 6 claims. (Cl. 117-68). A felted fiberboard is saturated with a high melting point petroleum pressure pitch on the surface with the remainder saturated with a pitch of lower melting point.

2,290,777. Suction box. Edward T. Street, assignor to Downingtown Manufacturing Company, Downingtown, Pa. Filed Jan. 5, 1939. 2 claims. (Cl. 92-53).

2,290,803. Adhesive applicator. Kennett W. Dillman, Caruthersville, Mo., and Robert W. Narbee, Memphis, Tenn.; said Barbee assignor to said Dillman. Filed Oct. 7, 1940. 5 claims. (Cl. 91-12). Means of applying adhesive to a sheet of fiberboard.

JULY 28, 1942

R22,147. Method of forming bonded surface layers. Arthur M. Howald and Leonard S. Meyer, assignors to Plaskon Company, Incorporated, Toledo, Ohio. Original No. 2,178,358, dated Oct. 31, 1939. Application for reissue Oct. 29, 1940. 2 claims. (Cl. 117-65).

2,290,888. Cellulose activated by liquid ammonia. Clemmy O. Miller and Arthur E. Siehrs, assignor to North American Rayon Corporation, New York, N. Y. Filed March 29, 1939. 10 claims. (Cl. 260-209). A method of treating cellulose with an ammonium salt dissolved liquid, anhydrous ammonia.

2,291,010. Carton feeding apparatus. Robert William Vergobbi, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed July 12, 1940. 19 claims. (Cl. 93-53).

2,291,027. Paper testing machine. Arthur W. Cole, assignor to Rex. Paper Company, Kalamazoo, Mich. Filed Dec. 9, 1940. 7 claims. (Cl. 73-51). A paper inspecting device for detecting flaws in coated paper webs.

2,291,041. Method of making starch solutions. Hans O. Kauffmann, Paul H. Margulies, and Joseph R. Ryan, assignors to Buffalo Electro-Chemical Company, Inc., Buffalo, N. Y. Filed April 13, 1940. 2 claims. (Cl. 127-33). A mixture of starch, hydrogen peroxide and mild alkali at a pH 6.5-7.5 is heated at 90-100 deg. C. until the starch is liquefied.

2,291,063. Box making machine. Edwin G. Staude and Paul E. Fischer, assignors to E. G. Staude Manufacturing Company, St. Paul, Minn. Filed Aug. 26, 1940. 19 claims. (Cl. 93-49). Machine for making collapsible boxes from preformed blanks.

2,291,079. Paper having high wet strength and process of producing the same. Raymond P. Hofferbert, assignor to American Cyanamid Company, New York, N. Y. Filed Feb. 6, 1940. 2 claims. (Cl. 117-155). Paper is treated with an aqueous solution of a melamine-formaldehyde condensation product (0.5-5% of the weight of the paper) and polymerizing the condensation product.

2,291,080. Method of producing paper having high wet strength and product thereof. Raymond P. Hofferbert, assignor to American Cyanamid Company, New York, N. Y. Filed Feb. 6, 1940. 5 claims. (Cl. 117-155). Paper is treated with an aqueous solution of an aminotriazine-aldehyde condensation product (0.5-5% of the weight of the paper) and polymerizing the condensation product.

2,291,131. Temperature control for driers and other heat exchange elements. Adam E. Armstrong, assignor to Armstrong Machine Works, Three Rivers, Mich. Filed Aug. 19, 1940. 24 claims. (Cl. 34-48). A control for steam-heated driers.

2,291,140. Wallboard. Carell W. Bowyer, assignor to The Celotex Corporation, Chicago, Ill. Filed July 29, 1932. 3 claims. (Cl. 154-45.9). A pair of separated membranes between which are rock sponge particles.

2,291,258. Resilient stretchable fabric and process of making it. William Wallace Rowe, assignor to Cincinnati Industries, Inc., Cincinnati, Ohio. Filed April 12, 1937. 5 claims. (Cl. 154-33.05). A process of creping paper with a coating of rubbery substance.

2,291,280. Apparatus for applying sealing strips to containers. William A. Joplin, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed July 14, 1939. 2 claims. (Cl. 216-21). An apparatus for securing the folded down top closure of a container including conveying mechanism for containers and cutting means for forming an individual strip of thermoplastic sealing tape.

2,291,432. Molding composition and plastic material made therefrom. Raymond S. Hatch, assignor to General Timber Service, Inc., St. Paul, Minn. Filed July 16, 1938. 8 claims. (Cl. 260-9). Finely divided wood and a primary amine.

2,291,433. Molding composition and plastic material made therefrom. Raymond S. Hatch, assignor to General Timber Service, Inc., St. Paul, Minn. Filed Feb. 25, 1939. 8 claims. (Cl. 260-9). Finely divided wood and an aliphatic alcohol, furane alcohols, cyclohexanol or benzyl alcohol and like compounds.

AUGUST 4, 1942

2,291,616. Method of coating webs. John Fletcher, assignor to The Plastergon Wall Board Company, Buffalo, N. Y. Filed April 5, 1939. 9 claims. (Cl. 92-40). Coating with a water dispersion of a solution of a resinous coating material that is insoluble in and immiscible with water and contains coating solids with a volatile solvent for such solids.

2,291,789. Sheet trimming, slitting, and scoring mechanism. Herbert C. Behrens, assignor to Samuel M. Langston Co., a corporation of New Jersey. Filed Feb. 24, 1941. 17 claims. (Cl. 164-60).

2,291,794. Coating and impregnating product and process. Ivor M. Colbeth, assignor to The Baker Castor Oil Company, New York, N. Y. Filed Aug. 17, 1939. 4 claims. (Cl. 106-244). A solid oxidized castor oil and sufficient diethylene glycol ethyl ether to form an aqueous emulsion.

2,291,824. Recovery of refined products from tall oil. Isador Miller, New York, N. Y. Filed March 18, 1939. 5 claims. (Cl. 260-97.5). The selective esterification of the fatty ingredients of tall oil with crude wood alcohol in the presence of a mineral acid and an aldehyde and separating the resultant insoluble ester-resin-acid complex from the residual solvent.

2,291,830. Automatic band guide. Noel Obershain, assignor to West Virginia Pulp & Paper Company, New York, N. Y. Filed Aug. 1, 1940. 3 claims. (Cl. 74-241). A guide having a feeler adapted to maintain contact with an edge of the band and a control roll, with a source of air under pressure.

2,291,833. Process of regenerating sulphate pulp cooking liquors. Walter Lee Savell, assignor to The Mathieson Alkali Works, Inc., New York, N. Y. Filed Nov. 23, 1940. 1 claim. (Cl. 23-48). Molten black ash is treated with sulphur and the mixture is passed through a charge of coke, after which the green liquor is treated with soda ash and causticized.

2,291,841. Patch applying and laminating mechanism for paper working machines. Edwin G. Staude, Minneapolis, Minn. Filed April 1, 1940. 36 claims. (Cl. 93-61).

2,291,843. Coating composition containing ester gum. Robert C. Swain and Pierrepont Adams, assignor to American Cyanamid Company, New York. N. Y. Filed Nov. 8, 1940. 4 claims. (Cl. 260-24). A mixture of melamine-formaldehyde resin (ratio of aldehyde to amine about 2.5:1) and ester gum in the ratio of about 2:3.

2,291,844. Coating compositions containing East India resin. Robert C. Swain and Pierrepont Adams, assignors to American Cyanamid Company, New York, N. Y. Filed Nov. 26, 1940. 3 claims. (Cl. 260-24). A mixture of melamine-formaldehyde resin and East India resin in the ratio of about 3:2.

2,291,845. East India resin coating composition. Robert C. Swain and Pierrepont Adams, assignor to American Cyanamid Company, New York, N. Y. Filed Nov. 26, 1940. 4 claims. (Cl. 260-24). A mixture of melamine-formaldehyde resin and East India resin in the ratio of 3:2.

2,291,863. Chuck for paper rolls. Craig C. Baker, Portland, Oregon. Filed Oct. 28, 1940. 3 claims. (Cl. 242-72).

2,291,932. Sealing mechanism. Raymond Vahle, assignor to Leon Benoit, New York, N. Y. Filed March 20, 1941. 11 claims. (Cl. 216-29). A sealing mechanism for containers.

2,291,955. Apparatus for applying thermoplastic material onto receptive layers. Charles Emmey, New York, N. Y. Filed June 12, 1940. 3 claims. (Cl. 154-37).

2,292,118. Molded article. Henry C. Guhl, assignor to Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Filed July 24, 1940. 7 claims. (Cl. 154-43). Laminated sheets of cellulosic fibers are impregnated with a phenolic condensation resin with a coating of urea resin.

2,292,157. Method of making bags for sound records. George W. Poppe, assignor to Equitable Paper Bag Co., Inc., Long Island City, N. Y. Filed June 5, 1941. 8 claims. (Cl. 93-35).

2,292,261. Abrasive disk and method of making the same. Frank Osbern Albertson, assignor to Albertson & Company, Inc., Sioux City, Iowa. Filed Feb. 19, 1940. 4 claims. (Cl. 51-195). A backing for abrasive disks comprises a disk of resin-reinforced with sisal fibers and a facing of absorbent paper adapted to receive a binder for abrasive particles.

2,292,393. Wax coating composition. James D. Ingle, assignor to Industrial Patents Corporation, Chicago, Ill. Filed April 7, 1939. 15 claims. (Cl. 99-178). A wax composition comprises paraffin, a small proportion of a higher fatty acid and propionic acid.

AUGUST 11, 1942

2,292,389. Method of treating lignocellulosic material and product produced thereby. John G. Meller, assignor to Marathon Paper Mills Company, Rothschild, Wis. Filed Nov. 14, 1941. 8 claims. (Cl. 106-123). Lignocellulose material is digested at an elevated temperature and pressure with an alkaline aqueous solution at a pH between 4 and 6.5.

2,292,390. Method of treating lignocellulosic material to produce moldable products. John G. Meiler, assignor to Marathon Paper Mills Company, Rothschild, Wis. Filed Nov. 19, 1941. 10 claims. (Cl. 106-123). Lignocellulose material is digested with an alkaline aqueous solution containing a lignosulphonic acid at a pH 4.5-7, with the precipitation of a partially desulphonated lignosulphonic acid during the digestion.

2,292,393. Moistureproof sheet wrapping material. James A. Mitchell, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Aug. 1, 1939. 13 claims. (Cl. 260-17). The moisture-proofing composition consists of organic-solvent-soluble cellulose derivative film former, a wax moistureproofing agent, a blending agent, and a moistureproofing promoter (a polymeric methacrylate).

2,292,402. Machine for making fiber containers. Horace J. Paynter, assignor to American Can Company, New York, N. Y. Filed Dec. 29, 1938. 18 claims. (Cl. 93-81).

2,292,403. Method of producing fiber containers. John F. Peters, assignor to American Can Company, New York, N. Y. Filed Jan. 18, 1939. 9 claims. (Cl. 93-47). Method of producing one-piece fiber container fibers from a moving web of material.

2,292,411. Woven wire belt for Fourdrinier machines. Walter C. Sutton, assignor to The Lindsay Wire Weaving Company, Cleveland, Ohio. Filed July 17, 1940. 11 claims. (Cl. 245-8). The web is planular on both sides and flattened on one side more than the other by distortion of the wires.

2,292,412. Method of making woven wire belts. Walter C. Sutton, assignor to The Lindsay Wire Weaving Company, Cleveland, Ohio. Filed July 17, 1940. 12 claims. (Cl. 140-3).

2,292,487. Machine for wrapping paper. Charles Stevens, Wellston, Ohio. Filed April 3, 1940. 36 claims. (Cl. 93-2). A wrapping and sealing machine.

2,292,492. Method of incorporating fiber and rubber components. Alfred M. Thomsen, San Francisco, Calif. Filed Jan. 9, 1940. 5 claims. (Cl. 57-162). Method of forming a sheet of rubber and unbeaten unbleached fibers.

2,292,503. Purification of calcium carbonate. Edward M. Allen, assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa. Filed May 4, 1939. 17 claims. (Cl. 23-66). A double salt is formed with an alkali metal carbonate which is isolated and the calcium carbonate recovered.

2,292,513. Cellulose product. Charles A. Fourness and Edward H. Voigtman, assignors to Paper Patents Company, Neenah, Wis. Filed Oct. 11, 1939. 3 claims. (Cl. 154-44). A multi-ply, relative dense extensible pad or bat, the adhesive being a mixture of asphalt and paraffin wax.

2,292,518. Coated paper. John Helfrich, Westfield, N. J. Filed March 11, 1939. 1 claim. (Cl. 117-158). The coating consists of 40-75 parts of a neutral resin, 3-15 parts of diamyl phthalate, 5-25 parts of paraffin wax, and the reaction product of 0.5-2 parts of magnesium oxide and 5-15 parts of dammar gum.

2,292,577. Wear testing machine. Everett A. Mahannah, assignor to International Paper Company, New York, N. Y. Filed June 14, 1940. 11 claims. (Cl. 7351). A device for testing the wear quality of paper samples.

2,292,582. Method of making corner mounts for photographic prints and the like. Christopher Tate, Malden, Mass. Filed July 18, 1940. 6 claims. (Cl. 93-1).

2,292,663. Wire belt structure. Otto Carl Scherfel, assignor to Audubon Wire Cloth Corporation, Philadelphia, Pa. Filed Sept. 12, 1941. 5 claims. (Cl. 245-6).

2,292,723. Web severing mechanism. William M. Stocker, assignor to Cameron Machine Company, Brooklyn, N. Y. Filed Dec. 10, 1941. 1 claim. (Cl. 164-61).

2,292,901. Shredding method and apparatus. William Richard Schmitz, Jr., assignor to E. I. du Pont de Nemours Company, Wilmington,

Del. Filed June 1, 1940. 3 claims. (Cl. 83-6). Apparatus for shredding a board of fibrous material.

2,292,929. Paper core and rewind chuck therefor. Earl R. Crebbs, San Francisco, Calif. Filed Aug. 30, 1940. 4 claims. (Cl. 242-68).

2,292,991. Flexible abrasive product. George Crompton, Jr., assignor to Behr-Manning Corporation, Troy, N. Y. Filed March 6, 1941. 2 claims. (Cl. 51-309).

August 18, 1942

2,293,036. Paper cup. Walter E. Amberg, assignor to Universal Paper Products Company, Chicago, Ill. Filed Oct. 5, 1938. 4 claims. (Cl. 229-1.5).

2,293,125. Method and apparatus for coating sheet material. John R. Fanselow, assignor to K. C. M. Company, Neenah, Wisconsin. Filed April 12, 1941. 3 claims. (Cl. 91-48). A method of roll coating.

2,293,142. Container and method of making containers. Ogden Johnson, Bronxville, N. Y. Filed Aug. 3, 1940. 14 claims. (Cl. 93-39.1).

2,293,178. Art of severing thermoplastic webs. William M. Stocker, assignor to Cameron Machine Company, Brooklyn, N. Y. Filed Jan. 9, 1942. 4 claims. (Cl. 164-71).

2,293,193. Production of plaited material. William H. Cannard, Green Bay, Wis. Filed Oct. 20, 1936. 8 claims. (Cl. 154-30). Machine for forming plaited material from a moving web of fibrous material by corrugating means.

2,293,246. Reinforced vulcanized fiber backing belt. Horace B. Fay, Willoughby, Ohio. Filed Aug. 26, 1941. 4 claims. (Cl. 154-46). The belt consists of layers of vulcanized fiber and flexible glass fibers.

2,293,278. Process for finishing paper and product. Leroy C. Cates, assignor to S. D. Warren Company, Boston, Mass. Filed June 25, 1937. 9 claims. (Cl. 92-68). A method of supercalendering paper.

2,293,348. Auxiliary covering. Willard O. Manor, assignor to Consolidated Paper Company, Monroe, Mich. Filed Jan. 8, 1940. 7 claims. (Cl. 206-84). A coating composition for sheet material having a separable coating composition of dam-providing body resistant to sticking between the container and its contents.

2,293,385. Casein product and process of making. Henry V. Dunham, assignor to The Borden Company, New York, N. Y. Filed May 13, 1940. 8 claims. (Cl. 260-120). A method of dissolving rennet casein in tetrasodium pyrophosphate.

2,293,458. Moistureproof sheet wrapping material. Maurice L. Ernsberger, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed July 23, 1940. 12 claims. (Cl. 106-173). The moistureproofing composition consists of a wax, a binding agent and *N*-alkylcyclohexane sulfonamide as the essential plasticizer.

2,293,466. Method of making greaseproof cellulosic sheet material. James G. Juhasz, assignor to Maurice J. Wright, Chicago, Ill. Filed July 10, 1939. 1 claim. (Cl. 92-21). Flaxseed mucilage and water-soluble caseinate are mixed with cellulose pulp, formed into a sheet and the casein rendered insoluble by an astringent.

2,293,503. Method for dissolving cellulose. Kurt Hess, Max Ulmann and Richard Weingand, Berlin and Bomlitz, Germany. Filed July 13, 1937. 3 claims. (Cl. 260-215). Cellulose is treated with 62.5-64% sulphuric acid at 0 deg. C. for several hours.

2,293,568. Process for laminating rubber hydrochloride to paper. James E. Snyder, assignor to Wingfoot Corporation, Wilmington, Del. Filed June 22, 1940. 1 claim. (Cl. 154-2). A method of sealing a rubber hydrochloride film (0.001 inch thick) to paper by heat and pressure.

2,293,690. Process of coating web material. Herman R. Harrigan, assignor to District of Columbia Paper Mills, Inc., Washington, D. C. Filed Oct. 25, 1939. 3 claims. (Cl. 117-111). A method of applying coating to paper by transferring color from a specially etched gravure roll to a resilient transfer roll and then to the web to be coated.

2,293,691. Apparatus for coating web material. Herman R. Harrigan, assignor to District of Columbia Paper Mills, Inc., Washington, D. C. Filed March 27, 1940. 4 claims. (Cl. 91-50). An apparatus for roll coating of a paper web.

August 25, 1942

2,293,747. Apparatus for coating the edges of strips. Henry C. Koch, assignor to Abbott Coburn, Chicago, Ill. Filed July 13, 1939. 9 claims. (Cl. 91-46). Apparatus for coating the edges of strips of building material.

2,293,794. Adhesive applying roll. Charles C. Bell and Paul H. Dixon, assignors to United Shoe Machinery Corporation, Flemington, N. J. Filed July 30, 1941. 10 claims. (Cl. 91-67.8). A method of assembling a covered roll consisting of a core and a sleeve.

2,293,978. Paper pulp screen. Nils Walfrid Jönsson, Obbola, Sweden. Filed Feb. 23, 1940. 1 claim. (Cl. 92-33). A device which imparts to both the inlet and the outlet end of the screen orbital vibrations and means for damming up liquid so that the screen will be at least partially surrounded by liquid on both sides.

2,294,060. Pulp treatment. John A. Wiener, assignor to Downingtown Manufacturing Co., Downingtown, Pa. Filed Oct. 24, 1939. 2 claims. (Cl. 92-23). A method of renning waste products by charging a receiver having screening means with a material to be refined and, after screening, passing the mass into a grinder.

2,294,159. Method of laminating porous and plastic materials. Ernest A. Calabro, assignor to Polaroid Corporation, Dover, Del. Filed July 31, 1940. 2 claims. (Cl. 154-2).

2,294,211. Heat stable thermoplastic coating materials. David A. Rothrock, assignor to The Resinous Products & Chemical Company, Philadelphia, Pa. Filed April 15, 1940. 7 claims. (Cl. 260-14). A hot-melt coating composition consists of a synthetic, thermoplastic resin, a cellulose ether and 0.2-1 per cent of an organic ester of phosphorous acid.

2,294,215. Apparatus for making containers. John R. Sonneborn and Jonathan Y. Albertson, assignors to Stokes and Smith Company, Summerdale, Pa. Filed Oct. 2, 1939. 17 claims. (Cl. 93-18). Apparatus for making gusset-type containers from flexible webbing.

2,294,220. Method of and apparatus for making containers. Jonathan Y. Albertson, assignor to Stokes and Smith Company, Summerdale, Pa. Filed March 13, 1940. 12 claims. (Cl. 93-3).

2,294,335. Scoring device for sample paper boxes. Clyde L. Gilbert, Terre Haute, Ind. Filed Sept. 23, 1940. 40 claims. (Cl. 164-73).

2,294,347. Cloth backed paper sealing tape. Jordan V. Bauer and Don M. Hawley, assignors to Stein, Hall Manufacturing Company, Chicago, Ill. Filed Dec. 24, 1938. 10 claims. (Cl. 154-46).

September 1, 1942

2,294,446. Treatment of tall oil acids. Charles R. Brown and Ashton T. Scott, assignors to The Sharples Corporation, Philadelphia, Pa. Filed June 12, 1940. 10 claims. (Cl. 260-97.5). In the selective esterification of tall oil acids with a lower aliphatic alcohol, a portion of the resin acids is crystallized out and separated, and the remaining resin acid content is formed into a soap which is removed by solution with water from the esters of the aliphatic acids, which are immiscible with the aqueous soap phase.

2,294,478. Method and apparatus for expanding sheet material. Ralph F. Norris and George H. Nelson, assignors to Research Products Corporation, Madison, Wis. Filed Nov. 30, 1939. 23 claims. (Cl. 93-1). A machine and method for making expanded paper.

2,294,511. Method for indicating the water repellent qualities of materials under velocity conditions. Jerome Neiman, Woodcliff Lakes, N. J. Filed Dec. 6, 1940. 4 claims. (Cl. 73-51). Method of comparative testing of the water-repellent quality of porous, thin, sheet-like materials.

2,294,512. Apparatus for determining waterproof and water repellent qualities of fabrics. Jerome Neiman, Woodcliff Lake, N. J. Filed Aug. 2, 1941. 5 claims. (Cl. 73-51).

2,294,513. Glue applying roller. Elmer O. Pearson, assignor to Frank Fluckinger, Seattle, Wash. Filed June 15, 1940. 2 claims. (Cl. 91-49).

2,294,520. Adhesive applying mechanism for paper fabricating machines. Edwin G. Staude, Minneapolis, Minn. Filed May 23, 1940. 8 claims. (Cl. 91-50).

2,294,598. Conveyor for use with machines for proofing cartons and the like. Carl Wilhelm Hartmann, assignor to Satona Limited, Edinburgh, Scotland. Filed April 27, 1940. 5 claims. (Cl. 91-53). Conveying means for transferring cartons and the like from waxing or coating means.

2,294,599. Apparatus for proofing cartons and the like. Carl Wilhelm Hartmann, assignor to Satona Limited, Edinburgh, Scotland. Filed April 27, 1940. 7 claims. (Cl. 91-46). Means for waxing cartons.

2,294,651. High-gloss coated material. Wyly M. Billing, assignor to Hercules Powder Company, Wilmington, Del. Filed Oct. 26, 1936. 13 claims. (Cl. 117-155). A moisture- and greaseproof product consists of 70-95 parts by weight of an ethylene glycol-terpene-maleic anhydride resin and 5-30 parts of a compatible, relatively soft polyethylene glycol-terpene-maleic anhydride resin.

2,294,723. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 9 claims. (Cl. 106-218). An antioxidant for a saponified rosin is a secondary diarylamine (NHRR'), in which R and R' is an aromatic radical.

2,294,724. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 8 claims. (Cl. 106-218). An antioxidant for saponified rosin is a phenylenediamine derivative ($C_6H_4(NHR)_2$), in which R is an aromatic radical such as phenyl, naphthyl, lower aklylphenyl or alkoxyphenyl radicals.

2,294,725. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 8 claims. (Cl. 106-218). An antioxidant for saponified rosin is a secondary monoarylamine (C_6H_5NHR), in which R is a lower hydroxyalkyl, cyclohexyl, and hydrocarbon-substituted cyclohexyl radicals.

2,294,726. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 4 claims. (Cl. 106-218). An antioxidant for saponified rosin consists of a diphenylmethane derivative.

2,294,727. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 4 claims. (Cl. 106-218). An antioxidant for saponified rosin is an aromatic azo compound (RN:NR), in which R is a phenyl, naphthyl or other aromatic radical.

2,294,728. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 8 claims. (Cl. 106-218). An antioxidant for saponified rosin consists of a beta-naphthylamine derivative.

2,294,729. Stabilized dry rosin size. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 4, 1940. 4 claims. (Cl. 106-218). An antioxidant for saponified rosin consists of a natural product containing a substantial proportion of resinotannol compounds.

September 8, 1942

2,294,924. Treatment of cellulose with alkali metal amides in anhydrous liquid ammonia. Clemmy O. Miller and Arthur E. Siehrs, assignors to North American Rayon Corporation, New York, N. Y. Filed March 29, 1939. 40 claims. (Cl. 260-209). A carbohydrate (cellulose) is reacted with an alkali metal amide in anhydrous liquid ammonia.

2,294,925. Manufacture of reactive forms of cellulose and the like. Clemmy O. Miller, Milwaukee, Wis., and Arthur E. Siehrs, Chicago, Ill. Filed March 29, 1939. 16 claims. (Cl. 260-209). In preparing a reactive form of cellulose, it is treated with an aliphatic amine in anhydrous liquid ammonia.

2,294,932. Continuous manufacture of fibrous material. John Page, assignor to United States Gypsum Company, Chicago, Ill. Filed Jan. 10, 1939. 7 claims. (Cl. 83-94). Process of continuously and uniformly producing a stream of loosely interlaced bulky fibrous material, using a hammer-mill type of apparatus.

2,295,028. Decorative laminated products. Samuel B. Collins, Wantage Township, Sussex County, N. J. Filed Oct. 28, 1938. 6 claims. (Cl. 41-22). The underside of a paper is treated with a colored material and the exposed surface of the paper is treated with an impregnating material to irregularly transparentize adjacent areas of the paper and make the coloring material visible through the paper.

2,295,049. Machine for and method of applying covers to containers. Albert F. Pityo, assignor to Tri State Cap & Cap Machinery Co., Inc., Newark, N. J. Filed Sept. 14, 1938. 41 claims. (Cl. 226-83).

2,295,070. Felt lining. Frank M. Allen, Summit, N. J., assignor to Congoleum-Nairn, Inc. Filed April 17, 1939. 3 claims. (Cl. 117-140). A bituminous material, one zone containing 5-30% and the other over 30% bituminen.

2,295,215. Alpha cellulose pulp. Herman L. Joachim, assignor to Maui Agricultural Company, Ltd., a corporation of Hawaii. Filed Sept. 16, 1940. 4 claims. (Cl. 8-105). A method of bleaching bagasse pulp with chlorine and hypochlorite, with intermediate alkaline washing.

2,295,291. Method of controlling particle size in manufacture of calcium carbonate pigment. Howard F. Roderick, assignor to Michigan Alkali Company, Wyandotte, Mich. Filed Jan. 30, 1939. 8 claims. (Cl. 23-66).

2,295,394. Coating apparatus. Charles R. Fordyce, Walker F. Hunter, assignors to Eastman Kodak Company, Rochester, N. Y. Filed May 15, 1940. 1 claim. (Cl. 18-15).

2,295,399. Sheet thickness regulator for continuous mills. Clinton R. Hanna, assignor to Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Filed Oct. 30, 1940. 11 claims. (Cl. 80-35).

2,295,461. Apparatus for feeding and bending box blanks. Theodore A. Federwitz, assignor to Stokes and Smith Company, Summerdale, Philadelphia, Pa. Filed June 4, 1940. 10 claims. (Cl. 93-49).

SEPTEMBER 15, 1942

2,295,587. Recovery of sulphur dioxide from gas mixtures. Edward P. Fleming and T. Cleon Fitt, assignors to American Smelting and Refining Company, New York, N. Y. Filed Nov. 25, 1939. 7 claims. (Cl. 23-178). The sulphur dioxide is absorbed by an aromatic amine.

2,295,613. Gummed sheet material. Charles W. Stillwell, assignor to Dennison Manufacturing Company, Framingham, Mass. Filed Jan. 6, 1941. 11 claims. (Cl. 117-41). Method of making a dry but remoistenable gummed sheet materials.

2,295,958. Composition suitable for impregnating fibrous materials. Raymond P. Lutz, assignor to Western Electric Company, Incorporated, New York, N. Y. Filed Jan. 21, 1939. 3 claims. (Cl. 106-173). Fibrous electrical insulating material may be impregnated with substantially equal parts of cellulose acetate and Vinsol in acetone.

2,296,052. Apparatus for the packaging of milk. Claude E. Pope, Oakland, Calif. Filed April 3, 1939. 58 claims. (Cl. 93-39.1). Mechanism for fabricating a frustro-pyramidal container.

2,296,108. Aluminum acetate-casein complex and method of making. Walter B. Kinney, assignor to The Borden Company, New York, N. Y. Filed July 2, 1941. 6 claims. (Cl. 260-119). A water-soluble complex of casein and basic aluminum acetate is used as a sizing for paper and the like.

2,296,136. Apparatus for perforating sheet material. Marley E. Bechtel, assignor to Irene N. Bechtel, Kenmore, N. Y. Filed Feb. 13, 1942. 7 claims. (Cl. 164-90).

2,296,146. Apparatus for applying supplemental members to bag ends. Harry H. Crawford, assignor to St. Regis Paper Company, New York, N. Y. Filed Dec. 21, 1939. 2 claims. (Cl. 93-8).

2,296,160. Testing sheet materials. Theodore J. Gross, assignor to Container Testing Laboratories, New York, N. Y. Filed June 15, 1940. 2 claims. (Cl. 265-14). A method of applying pressure to a test piece between a pair of relatively movable plates and means for automatically regulating the rate of application of the pressure.

2,296,171. Method of producing sheet material. Donald G. Magill, assignor to American Can Company, New York, N. Y. Filed Nov. 13, 1939. 2 claims. (Cl. 154-40). A method of producing a composite laminated moisture-proof sheet by uniting a wax-coated rubber hydrochloride, regenerated and hydrated cellulose or vinyl resin to a heavier permeable fibrous base sheet..

SEPTEMBER 22, 1942

2,296,524. Treatment of flax straw. Clark C. Heritage, assignor to Wood Conversion Company, Cloquet, Minn. Filed Dec. 16, 1938. 6 claims. (Cl. 19-5). Straw is heated with wet steam and mechanically rubbed to disengage the shive and bast fiber.

2,296,578. Cuprammonium-cellulose solution. Paul Henry Schlosser and Kenneth Russell Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed Aug. 22, 1940. 20 claims. (Cl. 106-167). Cellulose is converted into a smooth paste by the conjoint action in an aqueous medium of the constituents of a basic copper salt containing about one gram atom of copper per mole of cellulose and ammonia not exceeding 6.5 moles per gram atom of copper and treating the resulting paste at a temperature around 0 deg. C. with an alkali metal hydroxide in an amount sufficient for the theoretical conversion of the basic copper salt to copper hydroxide.

2,296,712. Laminated product. Francis Ralph Grant and Thomas A. Tennyson, assignors to Lion Oil Refining Company, El Dorado, Ark. Filed Sept. 28, 1939. 8 claims. (Cl. 154-50). The adhesive for the laminating paper, etc., consists of the product obtained by blowing a bituminous material (asphalts and asphaltic fluxes) with approximately 1 to 10% of a trivalent metal soap; the laminated product does not separate substantially even when wet with water.

2,296,744. Apparatus for forming and deodorizing paper plates. Paul R. Simmons, Warsaw, Ind. Filed June 18, 1938. 11 claims. (Cl. 18-35).

2,296,758. Machine for assembling carton partitions. Paul C. B. Allen, Julius E. Wilske, Francis A. McCormick, and Albert S. Jackson, assignors to Owen-Illinois Glass Company, Toledo, Ohio. Filed Feb. 26, 1941. 32 claims. (Cl. 93-37).

SEPTEMBER 29, 1942

2,296,829. Making alkali cellulose of low water content. Arthur J. Barry, assignor to The Dow Chemical Company, Midland, Mich. Filed March 22, 1941. 2 claims. (Cl. 260-233). An alkali cellulose containing water is treated with liquid ammonia.

2,296,889. Process of and apparatus for forming seamless fiber stock containers. Lee M. Wiley, Marion, Ind. Filed May 13, 1940. 11 claims. (Cl. 93-60).

2,296,896. Method of making duplex containers. Robert Morris Bergstein, Cincinnati, Ohio. Filed Jan. 21, 1941. 16 claims. (Cl. 93-36.01).

2,296,897. Dewatering of fibrous materials. Joseph Billing and David Robert Johnston, assignors to Celanese Corporation of America, New York, N. Y. Filed March 17, 1939. 4 claims. (Cl. 210-199).

2,296,952. Chemical treatment of black liquor and tall oil. John Ross and Joseph Henry Percy, assignors to Colgate-Palmolive-Peet Company, Jersey City, N. J. Filed Dec. 30, 1939. 12 claims. (Cl. 260-97.5). By-products of black liquor are prepared by partially acidifying and extracting the black liquor with tall oil to obtain a tall oil extract and an improved black liquor raffinate and salting out the tall oil soaps from the raffinate in the presence of excess caustic alkali under non-oxidizing conditions.

2,296,972. Coated chart paper and method of making same. Earl C. Alkire and Emil F. Blase, assignors to Sangamo Electric Company, Springfield, Ill. Filed April 22, 1940. 11 claims. (Cl. 117-21). Paper is passed through melted carnauba wax, the wax coating is treated with a carbon tetrachloride solvent, the wax coating polished, and then passed through a liquid dispersion of a finely divided pigment.

2,297,015. Machine for coating strips. Walter P. Osgood, assignor to Boston Machine Works Company, Lynn, Mass. Filed Sept. 30, 1941. 5 claims. (Cl. 91-51).

2,297,094. Drainage device for web drying machines. Adam E. Armstrong and Fred A. Thor, assignors to Armstrong Machine Works, Three Rivers, Mich. Filed July 5, 1940. 18 claims. (Cl. 34-124). A siphon tube extending radially and axially of the web drying drum.

2,297,183. Composition for waterproofing permeable material. Constantine F. Fabian and James B. Lee, assignors to Lee Bros. Hats, Inc., Danbury, Conn. Filed Oct. 11, 1939. 7 claims. (Cl. 106-268). An aluminum salt of a high molecular weight fatty acid (oleic, stearic, palmitic) in a hydrocarbon vehicle, dispersed with an ester such as ethyl, butyl or amyl acetate.

2,297,438. Wood pulp grinder. Robert Stehr, Gorlitz, Germany; vested in the Alien Property Custodian. Filed Nov. 10, 1939. 1 claim. (Cl. 83-75).

2,297,593. Unrolling device for Fourdrinier wires. Nelson W. Webb, assignor to Eastwood-Nealley Corporation, Belleville, N. J. Filed Feb. 11, 1941. 8 claims. (Cl. 242-54).

2,297,635. Stereotype mat. Arlie W. Schorger, assignor to Burgess Cellulose Company, Freeport, Ill. Filed Aug. 26, 1939. 15 claims. (Cl. 22-5.5). The mat consists essentially of an intimate mixture of cellulose fibers and thermoplastic lignin and containing approximately 10-50% water.

New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Joseph C. Brown, Jr., student, Institute of Paper Chemistry, Appleton, Wis., now on leave for military duty, First Lieut., C.W.S., 3222 N. Pershing Drive, Arlington, Va., a 1940 graduate of A. & M. College of Texas.

Paul V. Deneen, chemist, Crocker, Burbank & Co. Assn., Westminster Street, Fitchburg, Mass., a 1916 graduate of Georgetown University.

Joseph S. Fox, research chemist, Southland Paper Mills, Inc., Herty, Texas, has been transferred from the associate to the active grade.

John J. Kelly, mill manager and treasurer, Springfield Coated Paper Corporation, Camden, N. J., attended the Drexel Institute of Technology.

Carlos A. Posnansky, manufacturer's representative, Carrera 3, No. 10-54, Colombia, S. A., a 1921 graduate of the Nautical Institute of Columbia.

Walter F. Reynolds, bleach plant control chemist, Hollingsworth & Whitney Company, Mobile, Ala., a 1939 graduate of the New York State College of Forestry.

Peter J. Trucano, graduate student, Institute of Paper Chemistry, Appleton, Wis.

Robert A. Baum, assistant chief chemist, Fernstrom Paper Mills, Inc., Pomona, Cal., a 1937 graduate of the University of California.

Pasquale A. Forni, student, Institute of Paper Chemistry, Appleton, Wis., a 1938 graduate of Rensselaer College, and received his M.S. degree from the Institute of Paper Chemistry in 1940.

Otto L. Hudrlik, Northwest Service Manager, the Flox Company, Minneapolis, Minn., a 1935 graduate of the University of Minnesota.

Arthur B. Kaplan, research assistant, Institute of Paper Chemistry, Appleton, Wis., has been transferred from the associate to the active grade.

Maurice A. Peerenboom, beater engineer, Nekoosa Edwards Paper Company, Port Edwards, Wis., a 1927 graduate of Lawrence College. Major Peerenboom is on leave for military duty, Major C.W.S., A. P. O. 925, c/o Postmaster, San Francisco, Cal.

Hubert J. Privette, research and development chemist, Sonoco Products Company, Hartsville, S. C., a 1939 graduate of the University of North Carolina.

Reavis C. Sproull, chemist-engineer, General Electric Company, Pittsfield, Mass., a 1941 graduate of New York University, and formerly a Fellow in Chemistry at New York University.

F. A. Steele, chief of inorganic research, Minnesota Mining and Manufacturing Company, St. Paul, Minn., a 1928 graduate of the Pennsylvania State College, has been reinstated as an active member.

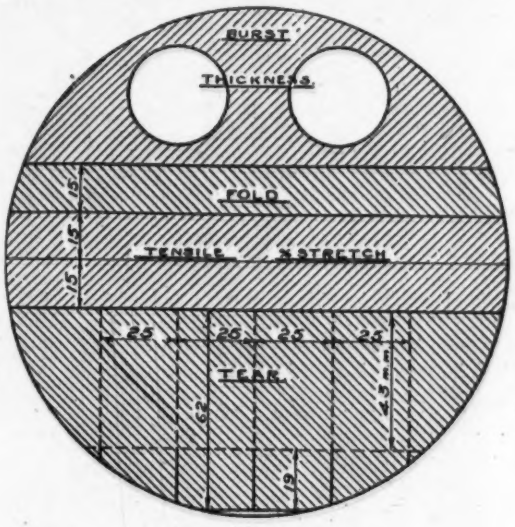
Milford J. Taylor, sales and engineering, Wisconsin Tissue Mills, Menasha. Wis., and formerly with the Hoberg Paper Mills, Green Bay, Wis., has been reinstated as an active member.

Physical Testing of Pulp Handsheets

TAPPI Tentative Standard T 220 m-42

This procedure deals with the testing of pulp handsheets, prepared in accordance with TAPPI Standard T 205 m, for strength and other physical properties, excepting optical properties. The sheets shall have been dried in accordance with method T 205 m and conditioned according to method T 403 m.

The sheets shall be tested according to the TAPPI standard paper testing methods, unless otherwise specified, for such characteristics as may be desired. Figure 1 shows a convenient method of dividing and using 5 test sheets for determining all the usual tests.


BURST
THICKNESS
FOLD
TENSILE & STRETCH
TEAR
25
25
25
25
15
15
15

standard, and such units shall be assumed to be calculated in the metric system unless definitely stated to be otherwise.

The calculations of the various items reported are shown below by formulas in which:

r = basis weight in grams per sq. m. (moisture-free basis);
R = basis weight in pounds per 500 sheets, 25x40 inches (moisture-free basis);
t = thickness of single sheet in thousandths of a mm.;
T = thickness of single sheet in thousandths of an inch;
b = bursting strength in grams per sq. cm.;
B = bursting strength in pounds per sq. in.;
p = tensile break load in kg. on 15-mm. strip;
P = tensile break load in pounds on 15-mm. strip;
e = force in grams to tear a single sheet.

Note: $R = 0.711\ r$; $t = 25.4\ T$; $b = 70.3\ B$.

Basis Weight: In grams per sq. m. (moisture-free basis).

Moisture: As percentage.

Bulk (Apparent Specific Volume): Calculated as cc. per gram from $\frac{t}{r}$; or $\frac{25.4\ T}{r}$; or $\frac{0.711\ t}{R}$; or $\frac{18.06\ T}{R}$.

Density (Apparent Specific Gravity): The reciprocal of bulk.

Burst Factor: From the formula $\frac{b}{r}$; or $\frac{70.3\ B}{r}$; or $\frac{50\ B}{R}$.

Breaking Length: In meters, calculated from the formula $\frac{200{,}000}{3r}\ p$; or $\frac{30{,}240}{r}\ P$; or $\frac{47{,}400}{R}\ p$; or $\frac{21{,}500}{R}\ P$.

Stretch: As percentage.

Tear Factor: From the formula $\frac{100e}{r}$; or $\frac{71.1e}{R}$.

Precision

The average basis weight of the test sheets shall be 57 to 63 grams per sq. m. (equivalent to 40.5 to 44.8 pounds, 25 × 40-500 basis). On a complete duplicate test, the burst factor should check within 2% or less, depending on the precision of the instrument.

In tests on a given shipment by different laboratories, if the paper testing instruments are standardized, the following maximum differences would be expected: Burst Factor, 5%; Breaking Length, 7%; Tear Factor, 10%; Bulk, 5%. These are about the same as for paper testing.

Preparation of Extractive-Free Wood

TAPPI Tentative Standard T 12 m-42

Extractives in wood consist of materials soluble in neutral solvents and not a part of the wood substance.

The following procedure is applicable to all North American woods. It may also be applied to bark, straw, and similar fibrous materials, and to pulps.

Abstract

A glass Soxhlet extractor of suitable size for containing the sample, and extraction thimbles of medium to coarse porosity of fritted glass or of alundum. Bags of cotton cloth of fine weave and thoroughly washed, and of a suitable size to fit within the body of the extractor are also satisfactory. Alternatively, a small wad of cotton or a wire screen may be placed in the discharge tube of the extractor and the entire body of the extractor filled with the wood sample. A thin wire screen disk placed over the top of the material will prevent channelling by the dripping condensate.

Reagents

1. *Ethyl Alcohol:* approximately 95% by volume.
2. *Alcohol-Benzene Mixture:* Mix one volume of approximately 95% ethyl alcohol and 2 volumes of C.P. benzene.

Specimen

The specimen shall consist of air-dry sawdust or wood meal prepared according to TAPPI method T 11 m, Sampling and Preparing Wood for Analysis.

Procedure

Place a suitable quantity of the sample in the extraction thimble, being certain that the wood does not extend above the level of the top of the siphon tube. Extract for 4 hours with alcohol-benzene mixture in the Soxhlet apparatus. Transfer the wood to a Büchner funnel, remove the excess solvent with suction and wash the thimble and wood with alcohol to remove the benzene. Return the wood to the extractor and continue the extraction with 95% alcohol for 4 hours or longer if necessary, until the alcohol siphons over colorless.

If the thimble is nearly full, a Gooch crucible of suitable size may be placed in the rim of the thimble to keep the sample together. Extraction with each solvent should be carried out at a rate of not less than 4 siphonings per hour. Remove the wood from the thimble and spread it out in a thin layer until free from alcohol. Transfer the material to a 1-liter Erlenmeyer or Florence flask and extract successively with three 1-liter portions of distilled water, heating the flask with each change of water for 1 hour in a hot water bath at 100° C. The water should be at boiling temperature before the addition of the wood and the flask in the bath should be entirely surrounded by the boiling water. After the third extraction with water is complete, filter on a Büchner funnel, wash with 500 ml. of boiling distilled water, and allow the extracted material to become thoroughly dry in the air.

REPRINT NOTE: Reprints of TAPPI Tentative Standard T 221 m-42 may be obtained from the Technical Association of the Pulp and Paper Industry, 122 East 42nd St., New York, N. Y., at 25 cents each.

International Nickel Wins Third Award

Announcement of the third war production award to The International Nickel Company is made by Robert C. Stanley, President, following receipt of official word from Admiral H. A. Wiley, Chairman of the Navy Board for Production Awards.

The latest honor gives the plant the right to fly the Army-Navy "E" with two stars. Previously the works had received the Naval Ordnance award, later followed by renewal in the form of the All-Navy "E" award with one star. The plant is among the first twenty-five throughout the nation, and the first in the Fifth Naval District, to win the two-starred Army-Navy "E" pennant. Each star represents the renewal of production honors for a six months' period.

CAMACHINE 10-14D

For low cost production of NARROW BOARD ROLLS

(up to 72" in diameter)

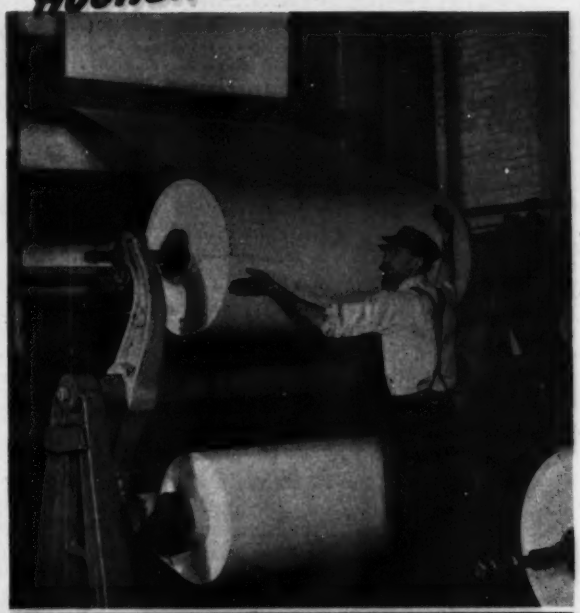
THIS MACHINE is designed especially for high-speed low cost production of narrow width paper board rolls up to 72" in diameter. Camachine 10-14D operates at speeds up to 1500 F.P.M. and slits rolls to as narrow as ½" in width. Finished rolls up to 50 inches in diameter can be produced on the standard model Camachine 10-14D. At extra cost the same machine can be equipped to handle rolls up to 72 inches.

Special features adapted especially to paper board mill requirements are the water-cooled mill roll brake, and the large diameter rewind drums which avoid cracking the web when threading up the machine.

Write for interesting folder.

CAMERON MACHINE COMPANY, 61 Poplar Street, Brooklyn, New York
MIDWEST OFFICE: Harris Trust Building, 111 West Monroe Street, Chicago

War jobs helped by HOOKER CHEMICALS



What, no paper shortage?

Newest reports indicate that for the present, at least, the threatened and predicted paper shortage has been avoided. Leave it to the pulp and paper industry to meet emergencies, especially when the welfare of the Nation is at stake.

HOOKER CHEMICALS

helped — by promoting efficient operation and process control through quality and uniformity. Hooker helped too by means of its technical service staff always available to help solve problems in paper chemistry.

2533

IMPORTS OF PAPER

NEW YORK IMPORTS

WEEK ENDING OCTOBER 17, 1942

SUMMARY

Photo paper	25 cs.
Pigment paper	1 cs.
Filter paper	31 cs.
Drawing paper	1 cs.
Tracing cloth	42 cs.

PHOTO PAPER

National City Bank, ——, ——, 25 cs.

PIGMENT PAPER

——, ——, ——, 1 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., ——, ——, 31 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., ——, ——, 1 cs.

TRACING CLOTH

A. Field, ——, ——, 2 cs.
E. Dietzgen & Co., ——, ——, 40 cs.

Pulp and Paper Division to Dine

The Pulp and Paper Division, one of the oldest and most active groups in the New York and Brooklyn Federations of Jewish Charities, will hold its annual trade dinner on Thursday, October 29, 6:30 P. M., at the Hotel Biltmore, it was announced by Morris Gintzler, of the Pulp and Paper Trading Company, Chairman of the Division.

The dinner commemorating the 25th anniversary of the New York Federation, will also honor the "25-year" men in the industry who have served and contributed to Federation ever since its establishment, Mr. Gintzler said. These men are William J. Eisner, Isaac Gilman, D. Samuel Gottesman, Henry Kurniker, and Max L. Weill.

Abraham Mazer, of the Hudson Pulp and Paper Corporation, co-chairman of the division, pointed out that at the same time the war emergency had impelled all Federation institutions to shoulder special war duties in addition to their day-to-day services.

Other officers, in addition to Mr. Gintzler and Mr. Mazer, include: Milton Collier, Pennsylvania Exchange Bank, treasurer of the division; Benjamin Mintz, of Trinity Bag and Paper Company, and William Salzman, of Brooklyn Standard Bag Company, vice-chairman of bag manufacturers; Joseph H. Simon, of Ace Paper Company, vice-chairman of board division; Samuel J. Fishman, of Finkel Paper Company, vice-chairman of Cosmopolitan Twine and Paper Association; Michael Posner, of S. Posner Sons, Inc., and Arthur Stein, of Yorkville Paper Company, vice-chairman of Metropolitan Paper Distributors Association; Heyman Schrier and Isaac Schrier, of Schrier Brothers, vice-chairmen of paper and bag jobbers; Jacob S. Glekel, of Eagle Paper and Twine Company, vice-chairman of paper box division; A. R. Melker, of A. P. Melker Company, vice-chairman of specialty paper division; Irving Zucker, of Oneida Paper Products, Inc., vice-chairman of specialty paper bags division; Isidor Baum, of Ashland Paper Mills, and Victor Cohen, of Park Tissue Mills, vice-chairman of tissue paper mills; Charles G. Strisik, of Empire Twine and Yarn Company, vice-chairman of twine division; Robert J. Dudnick, and Jack Weill, of Mutual Paper Company, vice-chairmen of the wrapping paper jobbers.

Members of the executive committee are: Charles Ballin, of Gilman Paper Company; Seymour Baum, of Ashland Paper Company; David Bernhardt, of Bernhardt-Zinn Paper Company; Sol Brown, of Merit Paper Corporation; A. H. Cohen, of Resolute Paper Products Corporation; Philip S. Elkins, of Adams Paper and Twine Company; Bernard Feldman, of Henry Fuchs and Son; Max A. Finkel, of Finkel Paper Company; Sidney Fishman, of Federal Paper Corporation; Morris Gold, of Southern Kraft Corporation; Morris Heller, of Amsterdam Paper Company; Morris Housen, of Erving Paper Mills; Moe Israel, of City Cordage Company and Irving A. Jaffe, of Jaffe Sales Corporation.

Also: David Kasson, of Biltmore Paper Company; Morris Katz, of Kary-Safe Paper Bag Company; William Mazer, of Hudson Pulp and Paper Company; Albert Newman, of Newman-Kohn Paper Company; Maurice Rosenfeld, of Equitable Paper Bag Company, Inc.; Fred E. Ruhling, of Lily Tulip Cup Corporation; Abraham Sacks, of Atlas Paper Products; Charles H. Schaffer, of Charles H. Schaffer Corporation; Emanuel I. Schorsch, of Schorsch & Co.; Meyer N. Schwartz, of Harlem Paper Products Company; Bernard Sharp, of Sharp Paper and Specialty Company; Benjamin I. Sheldon, of Gottesman & Co.; David Usdan, of Heller & Usdan, Inc.; Adolph Warshow, of Majestic Paper Corporation, and Samuel Wishnick, of Park Tissue Mills.

Farrel-Birmingham Win Second Award

The Navy Board for Production Awards has announced that a second All-Navy "E" Award has been won by Farrel-Birmingham Company, Inc., of Ansonia, Conn. Each of the company's three plants have earned the privilege of flying the Navy "E" burgee with a white star added.

The white star carries a special and added significance, according to Admiral H. A. Wiley, USN (Ret.), Chairman of the Navy Board for Production Awards. He highlighted this point in a letter of congratulation to N. W. Pickering, President of Farrel-Birmingham Company. Admiral Wiley's letter reads in part as follows:

"On behalf of the Under Secretary of the Navy, I congratulate every man and woman of the Farrel-Birmingham Company on their patriotic achievement. A Navy 'E' is not lightly bestowed in the first instance; the requirements for renewal are equally exacting. By being selected for the honor a second time you have demonstrated that yours is no half-hearted, flash-in-the-pan effort, but rather a solid determination to supply the Navy with the materials it must have to carry the engagement to the enemy. That's the spirit that has made the nation what it is today. It is the spirit that will win this war."

R. G. Elliott Made Vice President

CINCINNATI, Ohio, October, 1942—The board of directors of the Chatfield Paper Corporation have elected R. G. Elliott vice president of the corporation to succeed the late Thomas H. Scallan, who died recently.

"NON-USERS ARE THE LOSERS"

TENAX FELTS

PROFIT PRODUCERS

GET READY NOW

TENAX FELTS are remarkable performers. They run countless hours at high speeds and keep producing perfect paper and board. Even so,—they cannot last forever . . . when you have a lull in your schedule, take that opportunity to replace worn TENAX FELTS. We are able again to make prompt deliveries.

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LOCKPORT FELT COMPANY
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LATENT POSSIBILITIES
of Your Paper or Board Machine
Latent Possibilities of your paper or board machine may be discovered by treating your stock with a Sutherland Single Rotating Disc Refiner. Sutherland Refiner Corporation, Trenton, New Jersey.
SUTHERLAND REFINERS

WATERBURY FELTS

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New York Paper and Pulp Market Review

Demand For Major Paper Items Is Reported More Active Under Talk of Expected Curtailment In Paper and Pulp Production — Pulp Supply Situation Is Satisfactory — Old Waste Paper Slow.

Office of the PAPER TRADE JOURNAL.
Wednesday, October 21, 1942.

Improvement in sales volume in many major paper items, with demand particularly active in some grades of kraft and in medium and lower grades of sulphite bond papers, is reflected in some of the reports received from many manufacturers' representatives, jobbers, and general paper merchants this week. Reports also reflect that a further improvement in demand is expected, attributed in some quarters to the various reports of shortages of supplies of paper, caused by the impending cut in production by the WPB and the possible diversion of more manpower into war plants.

The conservation of manpower program, yet to be announced, is quite generally expected to be similar to that which will be adopted by Canada. No definite program in either countries has yet been announced. The new production schedules in Canada now in effect, are expected to be adopted, in part at least, by the United States as a cooperative war measure to conserve manpower and increase the production of direct war plants.

The index of general business activity for the week ended October 10, rose to 130.5%, from 130.1% for the preceding week, compared with 127.0% for the corresponding week last year. Paper board output was 1.5% higher.

Paper production for the week ended October 10 was estimated at 88.6%, compared with 102.1% for 1941, with 89.1% for 1940, with 96.9% for 1939, and with 83.0% for the corresponding week for 1938.

Paper board production for the week ended October 10 was 80.0%, compared with 99.0% for 1941, with 79.0% for 1940, with 83.0% for 1939, and with 70.0% for the corresponding week for 1938.

Wood Pulp

The supply situation in chemical wood pulp is reported easy at this date, with many mills having good inventories. No general scarcity is expected at this date to occur this year. Prices are unchanged.

Rags

The Office of Exports, Board of Economic Warfare, has abolished licenses for exports of paper-making rags and waste paper from the United States. These materials are now upon the general license list, and exporters are no longer required to file applications for each shipment.

Old Rope and Bagging

No important change in prices or demand has been reported in the old rope market this week.

Scrap bagging demand is light. Prices are reported to reflect no important changes during the current week.

Old Waste Paper

Mill buying in the paper stock market at this date is reported slow. Tonnages sold are light. Supplies are reported in some quarters as likely to be depleted if the current low tonnage of collections continues. Some reports attribute the low collections to the loss of labor, through the draft, and voluntary shifting of manpower into war industries.

Twine

No important change in the market situation of twine has been reported this week. Demand continues to be maintained at a high level by the requirements of war. Trade demand is moderate. Prices are firm on many standard grades of hard and soft fiber twines.

Newsprint Production Lower

Production of newsprint in Canada during September 1942 amounted to 257,618 tons and shipments to 292,405 tons, according to the News Print Service Bureau. Production in the United States was 77,962 tons and shipments 83,560 tons, making a total United States and Canadian news print production of 335,580 tons and shipments of 375,965 tons. During September, 23,313 tons of news print were made in Newfoundland, so that the North American production for the month amounted to 358,893 tons. Total production in September 1941 was 406,088 tons.

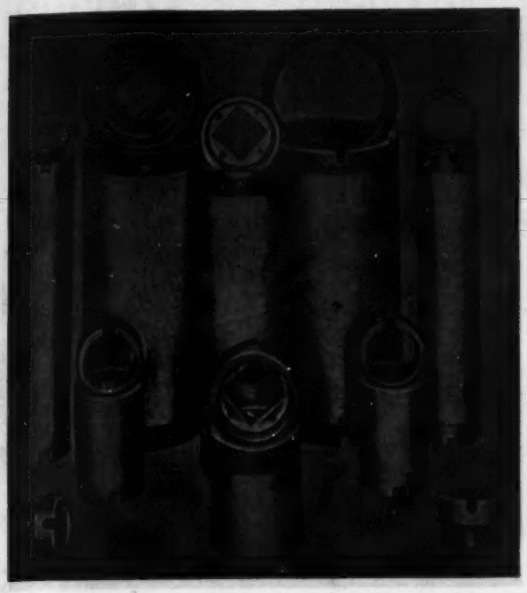
The Canadian mills produced 95,738 tons less in the first nine months of 1942 than in the first nine months of 1941, which was a decrease of three and eight tenths percent. The output in the United States was 44,864 tons or five and nine tenths percent less than in the first nine months of 1941, in Newfoundland production was 47,156 tons or seventeen and nine tenths percent less, making a total decrease of 187,758 tons, or five and three tenth percent less than in the first nine months of 1941.

Stocks of news print paper at the end of September were 119,335 tons at Canadian mills and 12,551 tons at United States mills, making a combined total of 131,886 tons compared with 172,271 tons on August 31, 1942, and 160,344 tons at the end of September 1941.

Samuel Milne Dead

The death of Samuel Milne on September 15, marks the passing of a pioneer inventor of machines used in the pulp and paper industries. Mr. Milne's decease came at the age of 81. He had been affiliated with Bertrams Limited, manufacturers of all types of paper making machines, of Scienes, Edinburgh, Scotland, for 51 years, 35 of which he served them as managing director.

He was known throughout the world for his inventions pertaining to the paper industry some of which have come into extreme prominence. Among these is the beater, known in this country as the Jones-Bertram beater made by the E. D. Jones & Co. of Pittsfield, Mass., and his shake and head box made by Sandy Hill Iron and Brass Works at Hudson Falls, N. Y. He was also known for his contributions before the societies of the industry; one of his best known papers being, "A Study of the Beater".



ELIXMAN

CAPS — Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

CORES

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.
CORINTH, N. Y.

APPLETON WIRES are GOOD WIRES

APPLETON WIRE WORKS, INC.
APPLETON, WIS.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL.
Wednesday, October 21, 1942.

BLANC FIXE—Quotations on blanc fixe are firm and continue unchanged at prevailing market levels. The pulp is currently quoted at $40 per ton in barrels, at works; the powder is offered at $60 per ton, f.o.b., works. Demand reported fair for the week.

BLEACHING POWDER—Prices on bleaching powder are firm. Current demand reported heavy. Bleaching powder is currently quoted at $2.25 per 100 pounds, in drums, at works.

CASEIN—Quotations on casein are unchanged for the week. Standard domestic casein, 20-30 mesh, is quoted at 19½ cents per pound; 80-100 mesh at 20 cents per pound; all prices in bags, car lots. Argentine casein, 20-30 mesh, at 7½ cents per pound, c.i.f., is reported nominal. No quotations on French casein.

CAUSTIC SODA—Prices of caustic soda are reported unchanged. Supplies ample. Demand fair for the current week. Solid caustic soda is currently quoted at $2.30 per 100 pounds, flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged. Demand reported fair for the current week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine unchanged. Government demand for war use continues heavy. Chlorine is currently quoted at from $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—Quotations on some grades of rosin are higher for the current week. "G" gum rosin is currently quoted at $3.48 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $3.48 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $3.68 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand reported light for the current week. Domestic salt cake is currently quoted at $15 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. Quotations on imported salt cake are nominal at $16 per ton.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Demand moderate. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch continue unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Demand reported light. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at from $1.75 to $1.85 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices of sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $18 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $16 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Carload Quantities Zone A, f.o.b. Mill			
Superstandard Wrapping	$5.00	@	—
No. 1 Wrapping	4.75	"	—
Standard Wrapping	4.50	"	—
Standard Bag	4.125	"	—
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.05	"	—
White No. 1½	1.00	"	—
White No. 2	1.00	"	—
Anti-Tarnish M. G.	.95	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case			
Unbleached, Jr.	2.35	"	—
Bleached, Jr.	2.65	"	—
Manila—per cwt.—C. l. f. a			
No. 1 Jute	11.25	@	—
No. 1 Manila Wrapping, 35 lb.	5.50	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	*48.00	@	—
Chip	*45.00	"	—
Sgl. Mla. Lt. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*60.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$40.25@$47.25	$41.40@$48.50
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	32.20 " 37.75
75% Rag	24.75 " 29.00	25.90 " 30.50
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.9
No. 2 Glossy Coated	12.40	"	14.0
No. 3 Glossy Coated	11.60	"	13.2
No. 4 Glossy Coated	11.15	"	13.7
No. 1 Antique (watermarked)	10.25	"	11.7
No. 2 Offset	9.60	"	11.0
A Grade E. F.	9.35	"	10.7
A Grade S. & S. C.	9.60	"	11.0
B Grade E. F.	8.85	"	10.2
B Grade S. & S. C.	9.10	"	10.5
C Grade E. F.	8.55	"	9.7
C Grade S. & S. C.	8.80	"	10.0
D Grade E. F.	8.25	"	9.5
D Grade S. & S. C.	8.50	"	9.7

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight to Destination.

Bl. Softwood Sulphite	$76.00
Unbl. Softwood Sulphite	64.00@ 64.00
Bl. Hardwood Sulphite	73.50
Unbl. Hardwood Sulphite	63.50
Bl. Mitscherlich	81.00
Unbl. Mitscherlich	72.00
N. Bleached Sulphate	86.00
S. Bleached Sulphate	79.00
N. Semi-Bleached Sulphate	82.00
S. Semi-Bleached Sulphate	75.00
N. Unbl. Sulphate	73.00
S. Unbl. Sulphate	63.50
Bl. Soda	66.00
Unbl. Soda	62.00
Groundwood	46.00

* Transportation Allowances Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50
	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum price.

Domestic Rags

New Rags (Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	8.00	@	8.25
Silesias No. 1	4.50	"	4.75
New Unbleached	8.00	"	8.25
Blue Overall	5.75	"	6.00
Fancy	3.00	"	3.25
Washables	2.50	"	2.75
Mixed Khaki Cuttings	2.50	"	2.75
O. D. Khaki Cuttings	3.00	"	3.15

TIMBER
In The War Effort

TIMBER is one of the vitally important raw materials necessary in the conduct of war.

THROUGH its forestry program the Seaboard Air Line Railway is promoting timber growing in the South in accordance with the concepts of sound forestry practices.

THIS HELPS not only to insure an adequate supply for our war needs but also to build up our forests for the future benefit of our wood-using industries.

INDUSTRIAL DEPARTMENT
SEABOARD
AIR LINE RAILWAY

Warren T. White
General Industrial Agent
Norfolk, Va.

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

OPA Maximum Prices.

Foreign Rags

All prices nominal

New Rags			
New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25
Old Rags			
No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.00	@	4.25
Wool Tares, light	4.25	"	4.50
Wool Tares heavy	4.50	"	4.75
Bright Bagging	4.50	"	4.85
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	4.25	"	4.75
Sisal Strings	3.25	"	3.75
Mixed Strings	1.10	"	1.20

* OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
Mixed Books	1.07½	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Mixed Ledger, colored	1.87½	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.85	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	1.75	"	—
Old Corrugated Containers	1.00	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17½	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1	.07¼	@	.07½
New White No. 2	.04½	"	.05
Light Silesias	.04½	"	.04¾
Silesias, No. 1	.04	"	.04¼
Black Silesias, soft	.03¾	"	.04
New Unbleached	.07¼	"	.07½
Washable Prints	.03¾	"	.03½
Washable No. 1	.02	"	.02¼
Blue Overall	.04½	"	.05½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales	.03¼	"	.03½
New Black Soft	.02¾	"	.03
New Dark Seconds	1.75	"	2.00
Khaki Cuttings—			
No. 1 O. D.	.03	"	.03¼
No. 2 Mixed	.02¼	"	.02½
Corduroy	.01¾	"	.02¼
New Canvas	.04¾	"	.05¼
New Black Mixed	—	"	.02½

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
White No. 2—Repacked	2.90	"	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
Sisal Rope	3.75	"	—
Mixed Rope	.75	"	1.00
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Hard White Shavings	1.57	"	—
No. 1 Mixed Paper	.70	"	—
Box Board Cuttings	.72½	"	—
Jute Corrugated Cuttings	.90	"	—
Overissue News	.85	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Overissue News	.85	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old Corrugated Containers	1.00	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	4.00	@	4.25
Sisal Rope	4.50	"	4.75
Mixed Rope	1.35	"	1.50
Transmission Rope—			
Foreign	(nominal)		
Domestic	3.00	"	3.50
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.00	"	5.25
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Scrap Sisal	4.50	"	4.75
Scrap Sisal for Shredding	4.75	"	5.00
Wool Tares—			
Foreign	(nominal)		
Domestic	5.00	"	5.75
Aust. Wool Pouches	5.10	"	5.25
New Burlap Cuttings	5.00	"	5.25
Heavy Baling Bagging	4.50	"	4.75
Paper Mill Bagging	2.75	"	3.25
No. 2 Bagging	1.35	"	—*

* OPA Maximum Price.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¼	"	.05
New White No. 1	.06¼	"	.06½
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06	"	.06¼
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.05¾	"	.06
Red Cotton Cuttings	.03	"	.03½
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¾	"	.03½
New Canvas	.06½	"	.07
B. V. D. Cuttings	.06¼	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
* Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices.

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.17½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—